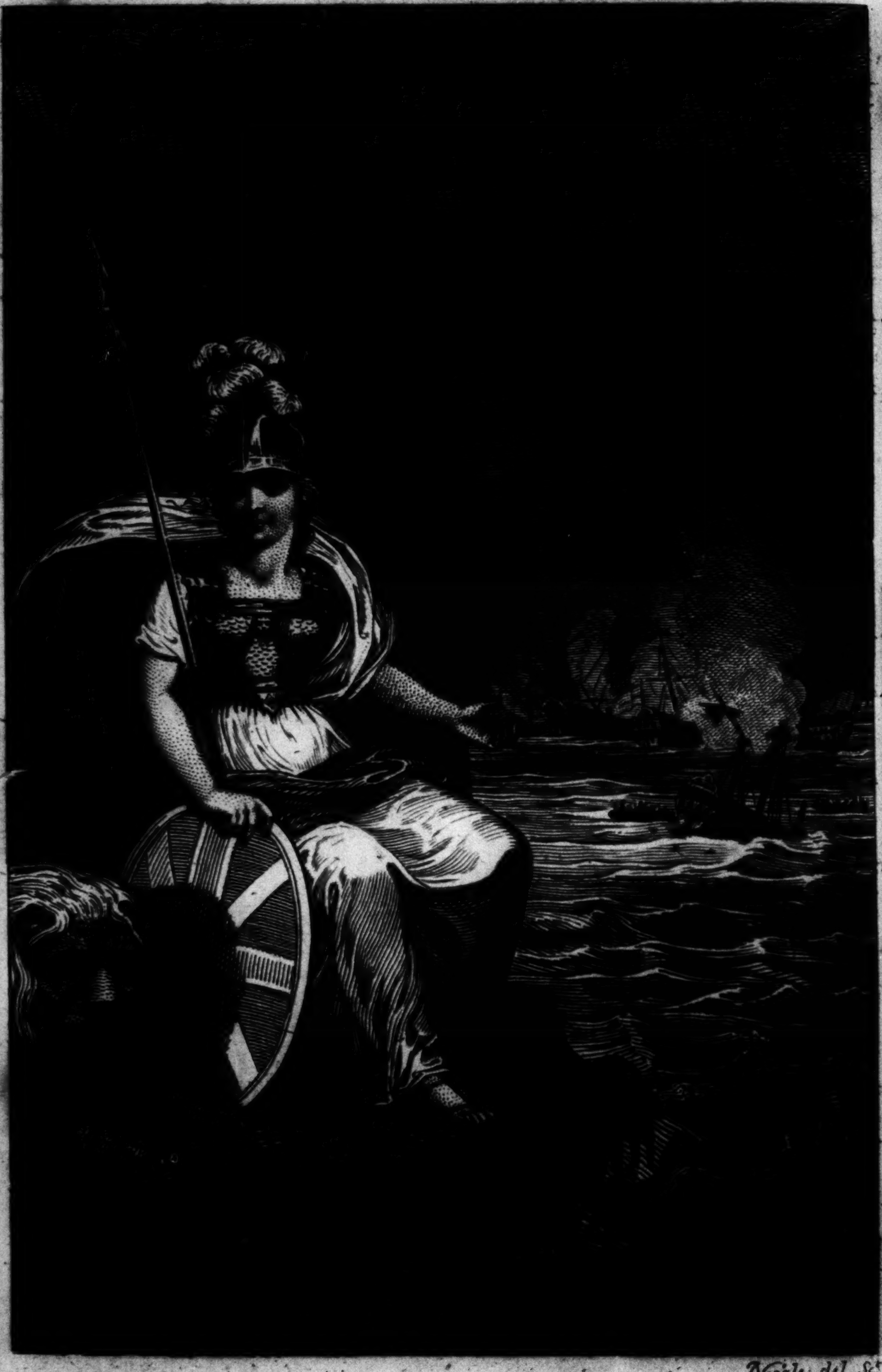

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A

SYSTEM

OF

NAVAL TACTICS;

COMBINING THE ESTABLISHED THEORY WITH
GENERAL PRACTICE, AND PARTICULARLY
WITH THE PRESENT PRACTICE OF
THE BRITISH NAVY.

ILLUSTRATED BY
COLOURED FIGURES,
DISTINGUISHING THE DIFFERENT COLUMNS OR
SQUADRONS IN EVERY EVOLUTION.

London:

Printed for DAVID STEEL, at his Navigation Warehouſe, LITTLE
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PREFACE.

NAVAL Tactics, or the art of war at ſea, is limited by the poſſibilities of navigation; and is therefore much leſs capable of that variety of ſtratagem which belongs to the hoſtility of armies. But, although the naval warrior cannot place his fleet in ambuſh, nor at all times preſs the foe in their weakeſt part, let it not be ſuppoſed that contrivance and ſurpriſe are excluded from this mode of battle. No: on the contrary, they are often the protection of inferior force, and frequently end the conteſt of equal powers. Of this too we may be aſſured, that, inaſmuch as the knowledge of what is poſſible to be accompliſhed may lead an enemy to diſcover the intention of an evolution in its very commencement; ſo much greater muſt be the talents and more acute the ingenuity of him, who can deviſe and execute an unexpected manœuvre. To do this, belongs to genius: it cannot be learned from books, for the moment of invention is the moment of execution.

Of what uſe, then, it may be aſked, are books of naval tactics? They teach the elements of that ſcience; without a knowledge of which, no man is an officer, and no officer adequate to a command.

M. Morogues is the moſt copious author upon this ſubject, and his ſyſtem is the practice of the preſent day. Of his work, therefore, a more full tranſlation now firſt appears, with every ſubſequent improvement on the ſame baſis correctly methodized.

M. Bourdé de Villehuet having, in his Manœuvrier, endeavoured to ſhew that a particular order of ſailing, which he calls the order of convoy, is the beſt adapted to the purpoſes of naval arrangements; we have therefore given, in the ſecond part, the ſyſtem of that gentleman.

The third and laſt diviſion of this Treatiſe, is the preſent practice of the Britiſh Navy; compiled from official documents with the aſſiſtance of ſeveral experienced officers.

The whole will, therefore, here be found in a form more ſyſtematically digeſted than heretofore; more complete as a whole, and more diſtinct in the parts.

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NAVAL TACTICS.

PART I.

FLEETS.

FLEETS are generally divided into three ſquadrons; and, if numerous, theſe ſquadrons are ſub-divided into three diviſions. The ſquadrons are denominated the van, the center, and the rear; and the diviſions of each ſquadron bear the like denomination. In general, the center ſquadron is commanded by the admiral (who, indeed, directs the whole); the van by the vice-admiral; and the rear by the rear-admiral. The three ſquadrons of a fleet ought to be equal, in number and force, in order that one may be able as effectually to oppoſe the enemy as another.

The buſineſs of ſuch fleets, denominated NAVAL TACTICS, conſiſts of evolutions, which are to preſerve their own ſafety and produce injury to the enemy, in every poſſible ſituation. Nothing great can be effected without order; and therefore it is, that various diſpoſitions for fleets have been deviſed, applicable to their different objects of either protecting commerce, croſſing an ocean, or engaging an enemy. Tacticians have ſaid, that there are five orders of ſailing, one order of battle, and one order of retreat; and, as this ſyſtem is moſt uſually practiſed, we ſhall, in this firſt diviſion of the ſubject, confine ourſelves to the elucidation of that ſyſtem; and ſhall hereafter give whatever deviations from it have been ſuggeſted by writers of originality and genius.

Before we enter upon diſcuſſing the different orders, it is neceſſary to be correctly underſtood with regard to what is meant by theſe terms; *a-breaſt;* to *bear away;* to *haul the wind;* to *lie-to*, or to *bring-to;* to *tack;* to *vere*, or *ware;* *in the wake;* *ſtarboard* and *larboard lines of bearing;* the *manœuvre in ſucceſſion*; the *line a-breaſt;* and the *bow-and-quarter line.*

A-BREAST.

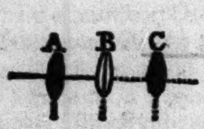


FIG. 1.

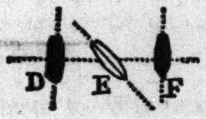


FIG. 2.

WHEN two or more ſhips lie with their ſides parallel, and their heads equally advanced, they are a-breaſt of each other, as are the ſhips A B C. But, if their ſides be not parallel, then that ſhip, which is in a line with the beam of the other, is a-breaſt of her; as the ſhip E is a-breaſt of D and F, but neither D nor F are a-breaſt of E.

TO BEAR AWAY.

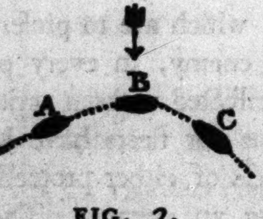


FIG. 3.

To change a ſhip's courſe, ſo as to make her ſail more before the wind. Thus the ſhip A *bears away* from a cloſe-hauled courſe, when ſhe gets on either of the courſes B and C. And ſo equally does the ſhip B *bear away* from a courſe two points free, when ſhe ſteers on the courſe C four points free.

TO

TO HAUL THE WIND.

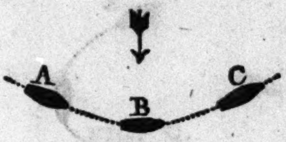


FIG. 4.

To direct the ſhip's courſe nearer to the point from which the wind blows. Thus the ſhip A *hauls her wind*, when, by the trim of her ſails and the action of her rudder, ſhe gets on either of the courſes B and C. And in like manner does the ſhip B haul her wind, when ſhe changes to the courſe C.

TO LIE-TO, *or* TO BRING-TO.

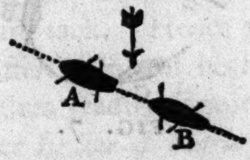


FIG. 5.

To retard a ſhip in her courſe, by arranging the ſails in ſuch a manner as to counteract each other with nearly an equal effort, rendering the ſhip almoſt immoveable with reſpect to her progreſſive motion or headway. Thus the poſition of the yards, in the figures A and B, cauſes the ſails to counteract each other, the wind blowing upon the after-ſurface of the one, and the fore-ſurface of the other.

TO TACK.

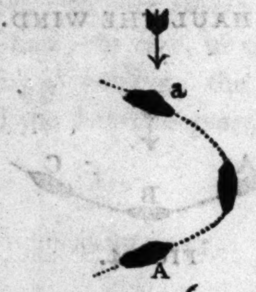


FIG. 6.

To turn a ſhip about from one tack to the other, by bringing her head to the wind. Thus the ſhip A paſſes from the larboard to the ſtarboard tack a.

TO VEER, *or* WARE.

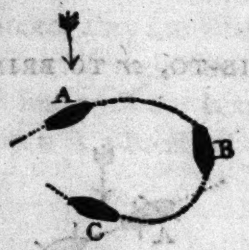


FIG. 7.

To change a ſhip's courſe from one tack to the other, by turning her ſtern to windward. Thus the ſhip A *veers*, in paſſing from the cloſe-hauled larboard tack A, to the cloſe-hauled ſtarboard tack C, by turning her ſtern to windward, as in B.

IN THE WAKE.

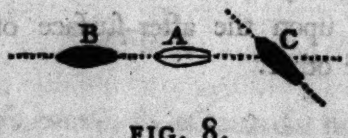


FIG. 8.

A ſhip is *in the wake* of another when ſhe follows her in the ſame track, or on a line ſuppoſed to be formed on a continuation of her keel. Thus the ſhip A is ſailing in the wake of B, and the ſhip C is croſſing in the wake of A and B.

THE STARBOARD AND LARBOARD LINES OF BEARING.

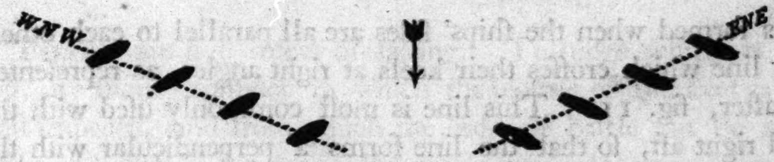


FIG. 9.

THESE are the two cloſe-hauled lines, the wind being in any given point. If upon either of theſe lines a fleet be ranged, whatever courſe they ſteer, they will, by hauling the wind, or by tacking together, be found in order of battle; i. e. cloſe-hauled on either the ſtarboard or larboard tack. Thus, for inſtance, the ſhips on the ENE line, fig. 9, are on the larboard line of bearing, as well as larboard tack; for it will be readily ſeen, that, if they haul their wind together, they will be in order of battle on the larboard tack. But the ſhips on the WNW line are on the ſtarboard line of bearing, though running on the larboard tack; and, when they tack together, they will be in order of battle on the ſtarboard tack. Hence we ſee, that ſhips may be on one tack, but different line of bearing; and, accordingly as they are ranged for thus readily forming the order of battle, they are ſaid to be either *In line of bearing for the ſtarboard tack*, or *In line of bearing for the larboard tack.*

MANOEUVRE IN SUCCESSION

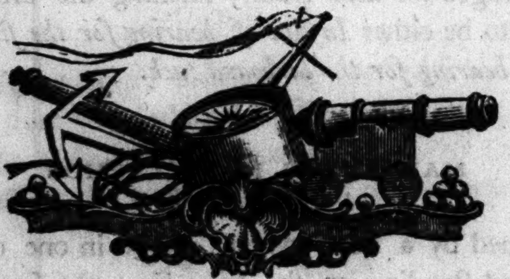
Is performed by a fleet, when, ranged in one of the orders of ſailing, and ſtanding on the ſame line, the ſame manœuvre is ſucceſſively performed by every ſhip, as ſhe arrives at the wake of the van ſhip of the whole fleet (if in one line), or of the van ſhip of her particular diviſion (if divided into ſquadrons). So that a fleet tacks or veers, bears away or comes to the wind, in ſucceſſion, when all the ſhips of every line execute, one after another, the ſame manœuvre on the ſame point of the wake of the leading ſhip. In all ſucceſſive movements great attention ſhould be paid to the ſhip a-head.

THE LINE A-BREAST

Is formed when the ſhips' ſides are all parallel to each other, on a line which croſſes their keels at right angles, as repreſented hereafter, fig. 11. This line is moſt commonly uſed with the wind right aft, ſo that the line forms a perpendicular with the direction of the wind.

THE BOW-AND-QUARTER LINE

Is formed by ſhips being ranged on the bow and quarter of each other. This will always be the caſe, when the whole fleet, being in order of battle, have either tacked or borne away *together*. In fig. 9. the ſhips on the WNW line are in bow-and-quarter line; for it is evident that, upon retacking together, they would form in order of battle: and thoſe which are bearing away on the ENE line are likewiſe in bow-and-quarter line, and would equally form in order of battle, upon hauling their wind.



THE ORDERS OF SAILING.

THERE are five orders of ſailing. To judge which is the beſt, we ſhould conſider in which the courſe of the fleet is the leaſt impeded, and from which the order of battle can be moſt eaſily and quickly formed. Upon this principle, experience determines in favour of the fifth order, which is accordingly in moſt general practice. Of the others, however, we ſhall give explanations, ſo that correct ideas may be entertained of their relative advantages and defects; and we ſhall likewiſe explain ſuch of their manœuvres as are ever practiſed.

FIRST ORDER OF SAILING.

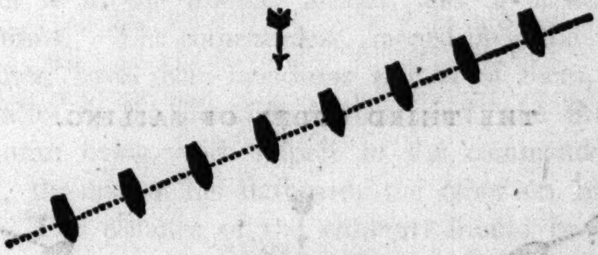


FIG. 10.

THE fleet is ranged on one of the lines of bearing, ſteering at the ſame time their proper courſe; fig. 10.

This order extends the fleet too much, rendering a communication between the van and rear difficult to be preſerved. When ſhips do not ſteer in the wake of each other, they cannot ſo commodiouſly preſerve the line; and the motions of a fleet, thus extended, are rather ſlow. This form can only be of ſervice when in ſight of an enemy, for the execution of ſome particular evolutions, and for the more readily forming in order of battle.

THE SECOND ORDER OF SAILING.

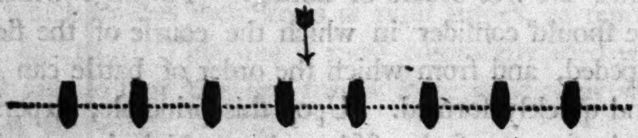


FIG. 11.

The fleet is ranged on a line perpendicular to the direction of the wind, ſteering, at the ſame time, their proper courſe; fig. 11.

This is by no means preferable to the firſt; becauſe, poſſeſſing all its defects, it has this additional one, that each headmoſt ſhip, in tacking, is in great danger of falling on-board her next a-ſtern, eſpecially if the line is ſomewhat cloſe.

THE THIRD ORDER OF SAILING.

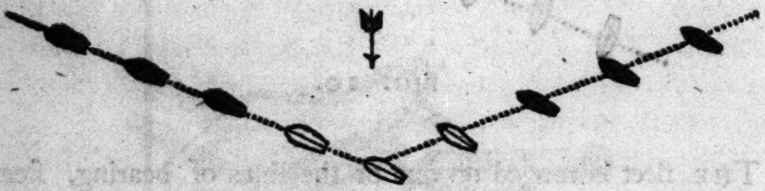


FIG. 12.

The whole fleet is ranged on the ſides of an obtuſe angle of 135 degrees, formed by two lines upon a wind, the admiral making the angular point to leeward; and thus the fleet may continue on any courſe; fig. 12.

This order, which is not without defects, is preferable to the other two. It collects the ſhips cloſer together, but ſtill gives too great an extent for the ſailing form of a fleet

THE FOURTH ORDER OF SAILING.

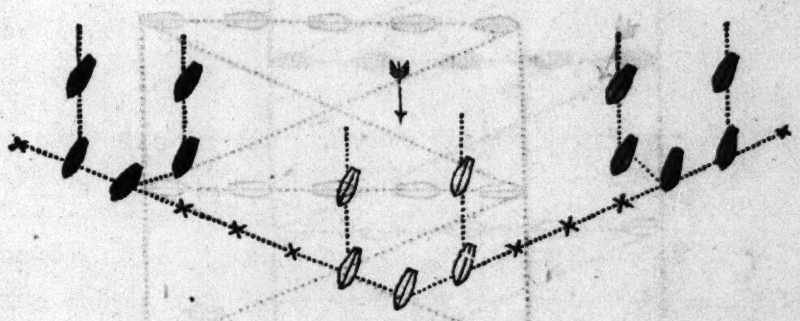


FIG. 13.

The fleet is divided into ſix columns; two for the van, two for the center, and two for the rear; fig. 13. Each commanding officer is in the middle, a-head, and to leeward, of his two columns. The commanders, ranged upon the two cloſe-hauled lines, have their ſquadrons a-ſtern of them, upon two lines parallel to the direction of the wind; the firſt ſhips of each column being, with reſpect to the commander of their ſquadron, the one on his ſtarboard, the other on his larboard quarter. The diſtance of the columns ſhould be ſuch as to permit the fleet to reduce itſelf eaſily to the third order of ſailing, to paſs from that to the order of battle.

The deficiency of this order would be eaſily ſeen, if the fleet were in ſight of an enemy. It requires too much time to reduce it to order of battle; a movement which ought to be executed with promptitude and facility. It is, beſides, liable to be broken in ſailing; becauſe it is difficult for the ſhips to preſerve their proper bearings with each other.

THE FIFTH ORDER OF SAILING.

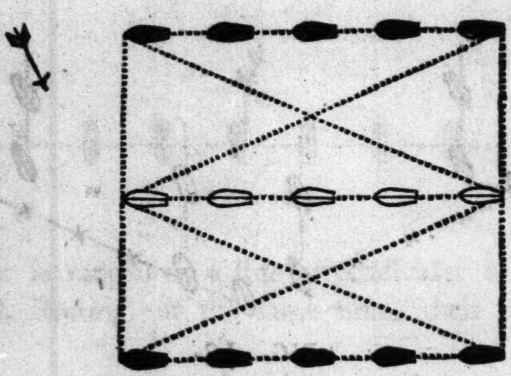


FIG. 14.

The fleet is divided into three columns, each of which is ranged on a line parallel with that cloſe-hauled line upon which they are to form the order of battle; fig. 14. Regularly, the van-guard forms the weather column, commanded by the vice-admiral; the center diviſion, commanded by the admiral, forms the center column; and the rear-guard, commanded by the rear-admiral, is the lee column. But this diſpoſition of the columns is ſometimes changed, to anſwer particular purpoſes.

Two things are principally to be obſerved, to keep this order regular; the columns and the veſſels ſhould preſerve their proper diſtances.

The commanders of each diviſion, and each ſecond, third, &c. ſhip are to keep themſelves reciprocally a-breaſt of each other; each likewiſe obſerving, with regard to her immediate leader, the diſtance preſcribed by the admiral.

The diſtance between the columns will be correct, if the firſt ſhip of one column and the laſt ſhip of the next column form an angle of 22°. 30′. or two points, with the line on which they are moving.

This order is more practiſed, becauſe it unites in itſelf the advantages of all the others, without their defects. The fleet, thus collected cloſer together, can better obſerve ſignals, and is more readily changed into order of battle.

In

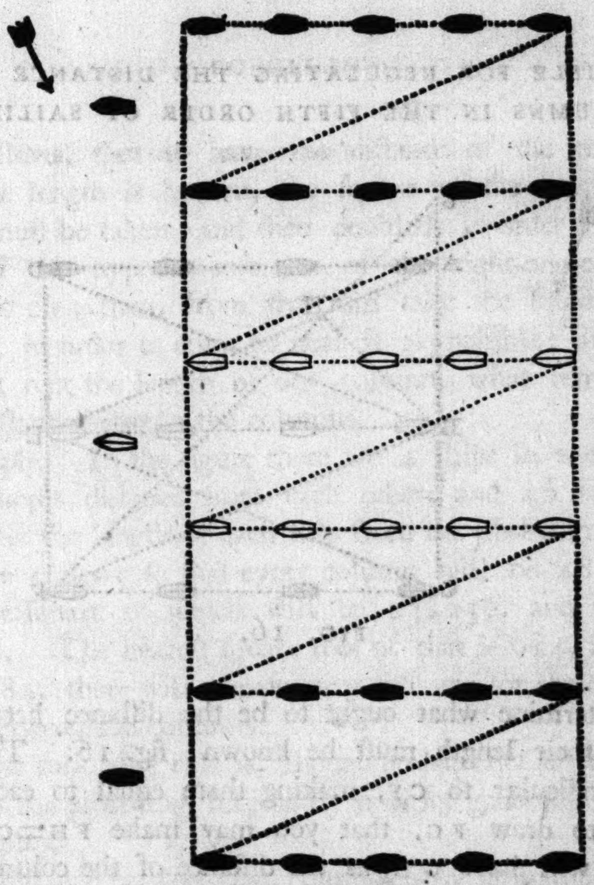


FIG. 15.

In this fifth order the diviſions, obſerving the ſame arrangement, may be formed in two or three columns, if the fleet be very large; fig. 15. Each chief of a diviſion will then place himſelf at a little diſtance before, in the middle, and at the head of his diviſion.

The ſhips, in this as in the other orders, may keep their proper courſe.

A PRINCIPLE FOR REGULATING THE DISTANCE OF THE COLUMNS IN THE FIFTH ORDER OF SAILING.

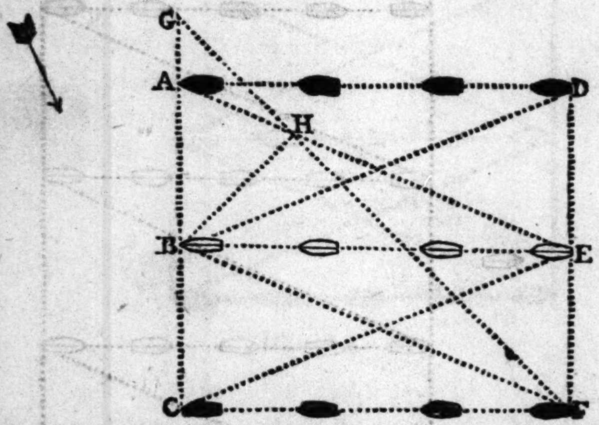


FIG. 16.

To determine what ought to be the diſtance between the columns, their length muſt be known; fig. 16. Then raiſe C G perpendicular to C F, making them equal to each other, in order to draw F G, that you may make F H=C F; and thus you will have G H as the diſtance of the columns. So that the lines A E and B F, being drawn from the rear of the weather column to the van of the leeward column A D, will be perpendicular to the direction of the wind.

DEMONSTRATION.

SINCE the van C and the rear E are equally to windward, E C is perpendicular to the direction of the wind; and the angle B F C=E C F, is 22°. 30′.; therefore E C F is alſo the half of the angle C F G of the right-angled iſoſceles triangle C G F: therefore the triangles B H F and B C F are ſimilar and equal, and the line B C is equal to B H or H G.

COROLLARY.

It follows, that to have the diſtance of the columns of which the length is known, the ſquare of the length of one column muſt be taken, and then doubled, in order to have the ſquare of the hypotheneuſe F G of the right-angled iſoſceles triangle G C F; then, from that ſum take the ſquare root by decimals, in order to come as near it as poſſible; and, taking from that root the length of one column, what remains ſhall be the diſtance between the columns.

Example. In the figure there are 4 ſhips in a column, at 100 fathoms diſtance from each other, and 46 fathoms are allowed for the length of each ſhip from the jib-boom end to the fly of the enſign; ſo that every column will be 484 fathoms long, the ſquare of which will be 234256, and the double 468512. The neareſt ſquare root of that is 684, from which taking 484, there will remain 200 fathoms for the diſtance requiſite between the columns.

But the following rule is, though perhaps not ſo critically accurate as the preceding, ſufficiently near for general practice, and leſs complex.

The diſtance between the columns may be found by multiplying the length of one column by 5, and dividing the product by 12. Thus, ſuppoſe the length to be 484 fathoms; that multiplied by 5 is 2420, and, divided by 12, gives 201 fathoms for the diſtance between the columns.

If the diſtance between the columns be previouſly given, the neceſſary length of them may be found in the ſame manner, by multiplying that diſtance by 12, and dividing by 5. This is only the inverſe of the preceding method.

But, when the columns are already formed, although not upon the preceding principle, their lengths and diſtance from each other may be thus found:

TO FIND THE LENGTH OF A COLUMN.

Add together the intervals between the ſhips and lengths of all the ſhips in that column. Thus, ſuppoſe 15 ſhips in a column:

	FATHOMS.
14 Intervals at 100 fathoms each	1400
15 Ships at 46 fathoms each -	690
Length of the column	2090

TO FIND THE DISTANCE BETWEEN THE COLUMNS.

Take the bearings of the leading ſhip of one column with the ſternmoſt ſhip of the next column. This may be called the angle of poſition; and, ſuppoſe it were 33°. 45'. or three points, it may be thus ſolved by trigonometry:

As the co-ſine of the angle of poſition, 33°. 45'. -	Ar. Co.	0. 08015
Is to the ſine of 33°. 45'. - -		9. 74474
So is the length of the column (2090 fathoms)		3. 32015
To the diſtance between the columns, 1396 fathoms)		3. 14504

Or it may be thus worked by the Table of Difference of Latitude and Departure. Uſe the angle of poſition, 34°. nearly, as a *courſe*; the length of a column, as *Difference of Latitude*; and the diſtance between the columns will be as the *Departure*.

THE ORDER OF BATTLE.

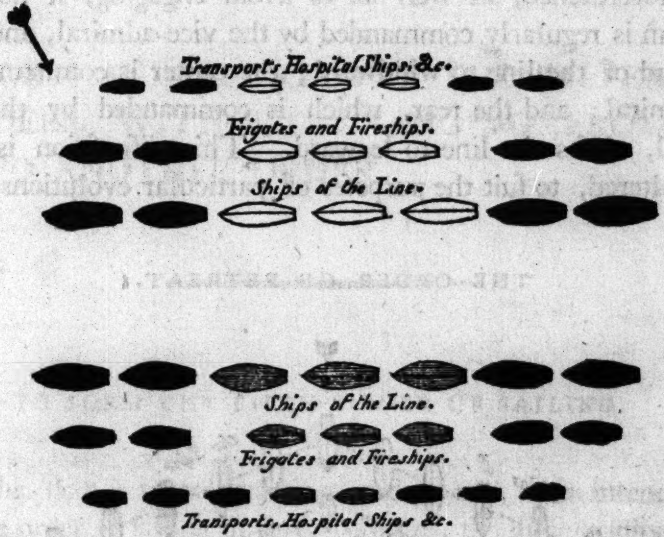


FIG. 17.

It has been found that there is no mode of preſerving order in battles at ſea, but by keeping upon a line, not quite cloſe-hauled, a-head of each other, and under very moderate ſail. The diſtance between each ſhip varies, according to circumſtances, from one-third of a cable's length to about 100 fathoms. The fire ſhips muſt be diſtributed, ſome a-breaſt of the van, center, and rear, at a convenient diſtance to windward, if the enemy be to leeward; or to leeward, if the enemy be to windward; and in a line with ſome frigates a-head and a-ſtern of them. Beyond theſe a third parallel line is formed of the hoſpital ſhips, tranſports, &c. with frigates a-head and a-ſtern. Fig. 17 repreſents two hoſtile fleets in order of battle, with their reſpective convoys.

The line upon a wind is choſen for the order of battle; becauſe, if the fleet to windward were ranged on any other line, the enemy might gain the wind of it: and, if he ſhould not even ſeek to obtain that advantage, he could nevertheleſs chooſe the time and diſtance for engaging. The fleet to leeward, being ranged parallel to the enemy, can more readily avail itſelf of any ſhift of wind and overſight of the enemy to gain the wind; which, if it ſhould not accompliſh, it muſt ſtill keep on that line, extending itſelf the length of the enemy's, to prevent the being forereached, as well as to avoid engaging, if neceſſary. The van is regularly commanded by the vice-admiral, and forms the head of the line to windward; the center is commanded by the admiral; and the rear, which is commanded by the rear-admiral, cloſes the line to leeward. This diſpoſition is ſometimes altered, to ſuit the purpoſes of particular evolutions.

THE ORDER OF RETREAT.

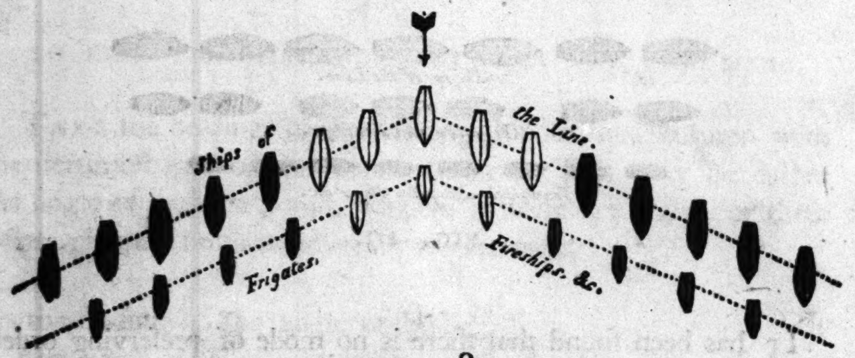


FIG. 18.

This form (the inverſe of the third order of ſailing) is practiſed only in the preſence of an enemy by an inferior fleet to leeward; when, either beaten or obliged to avoid an action, it makes choice of this diſpoſition, rather than either of the orders of ſailing; becauſe from this order it can more eaſily recover the line of battle; the frigates, fire ſhips, tranſports, &c. are more completely protected; and the whole is more connectedly under the command of the admiral; fig. 18.

The fleet is ranged on the two ſides of the obtuſe angle of 135 degrees, forming two lines upon a wind. The admiral forms the angular point to windward, and in the middle of his fleet: the fire ſhips, tranſports, frigates, &c. are placed between the two wings to leeward. The courſe of a retreat is generally before the wind; but the fleet may go more or leſs large, according to the exigency of the moment.

TO

TO FORM AND MANŒUVRE THE DIFFERENT ORDERS, WITHOUT CHANGING FROM OR INTO ANOTHER ORDER.

TO FORM THE FIFTH ORDER OF SAILING.

If the fleet is in no preſcribed order, and it is intended to form the order of ſailing in three columns, the three leading ſhips of the diviſions are to take their poſts a-breaſt and to-leeward of each other, keeping their wind under an eaſy ſail. Then the ſhips of each ſquadron, making ſail, will range themſelves in their reſpective ſtations, a-ſtern of their immediate leaders, and keep the ſame courſe as they.

TO TACK THE COLUMNS IN SUCCESSION.

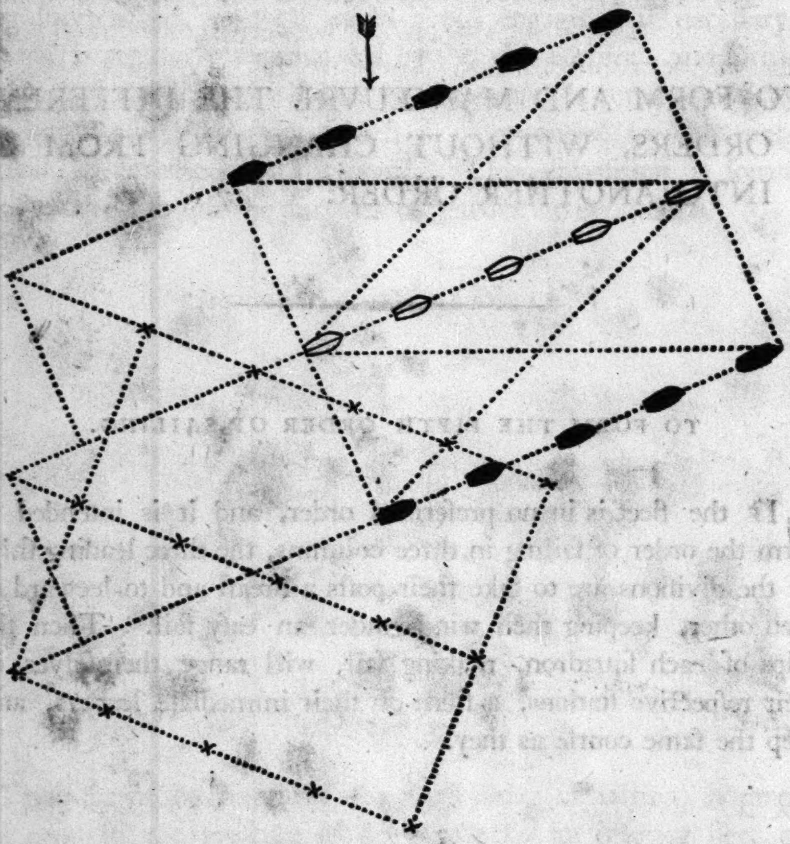


FIG. 19.

IN THE DAY.

The ſhips of the center and lee columns, having a greater diſtance to run before they can recover their poſition, muſt go about firſt, in ſucceſſion; fig. 19. When the center leader finds himſelf abreaſt of the leader to leeward of him, or at right angles with the cloſe-hauled line on the other tack, upon which the lee leader is now moving, he tacks, and is followed in ſucceſſion by his diviſion. The weather column, paying the ſame regard to the center column, manœuvres in the ſame manner. In this evolution the weather column ſtill continues to windward.

Should the columns have cloſed too much during this evolution, or be too far aſunder, either of which may happen from the inequality of ſhips' ſailing, the order may be recovered either by the lee or windward column bearing away, ſo as to make an angle of 22°. 30′. or two points, between the ſternmoſt ſhip of the weather column and the leader of the lee column.

IN THE NIGHT.

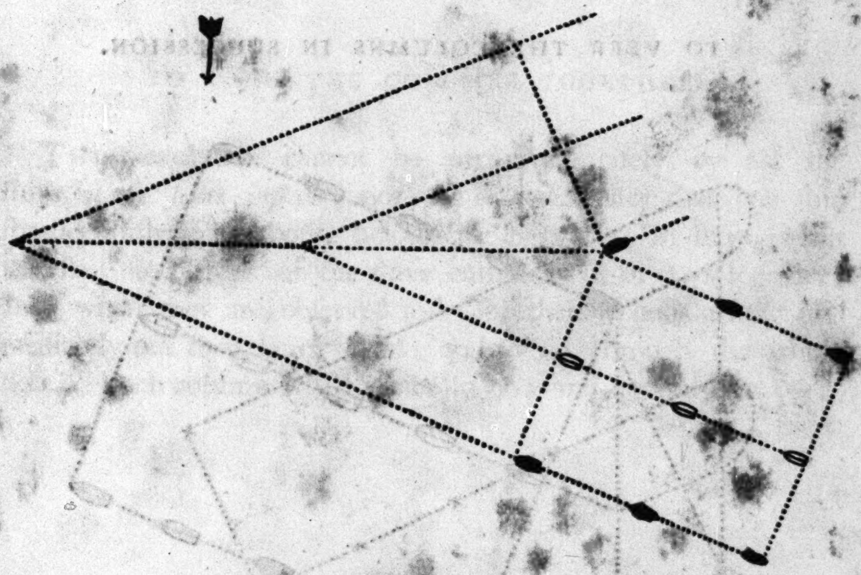


FIG. 20.

If this evolution is to be executed in the night, the *weather* column muſt tack firſt; fig. 20: and, in order to prevent the riſk of one column paſſing through the rear of the other columns, the next column muſt not tack till its leader is ſenſible that many ſhips of the columns immediately to windward are about. When about, the leaders make little ſail, while their followers make ſucceſſively a little more, in order to form their reſpective columns. But the columns which are firſt completely about, ſhould either bring-to, and wait for the next, or ſhould juſt keep ſteerage way. Thus the former weather column ſhould wait for the center; and they both ſhould then wait the arrival of the former lee column. In this evolution, it is to be obſerved, that the columns which were to windward are now to leeward.

As ſome riſk may attend the execution of this at night, it is moſt adviſeable to tack the columns together, and ſail in bow-and-quarter line; becauſe, if it became neceſſary to re-tack, or if the wind were to change before the completion of this evolution, much confuſion might enſue. By tacking together this would be avoided

TO VEER THE COLUMNS IN SUCCESSION.

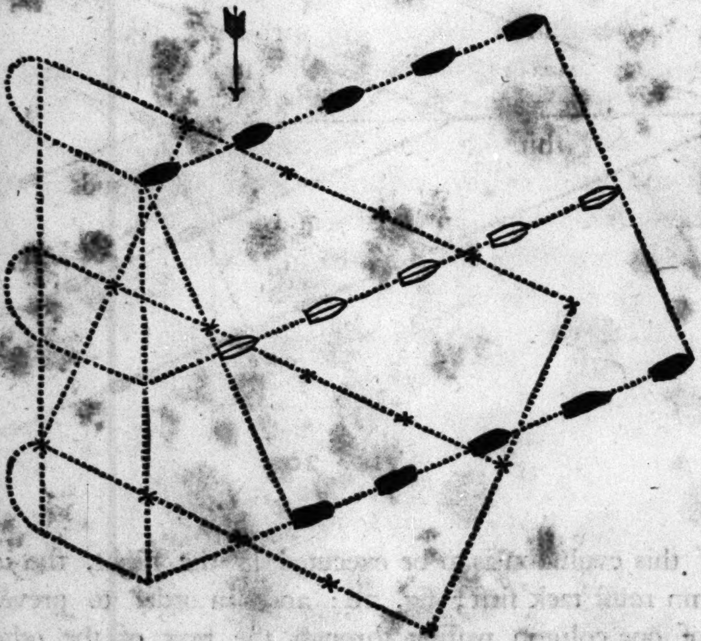


FIG. 21.

THE leader of the lee column, fig. 21, veers round, and ſteers four points free upon the other tack, followed by the ſhips of that diviſion; and, when he is clear of the ſternmoſt ſhip of his diviſion, he hauls up. The center and weather columns perform ſucceſſively the ſame evolution, obſerving to continue ſtanding on till they ſucceſſively bring the point, at which the lee column began to veer, to bear in a right line to leeward of them. They likewiſe ſucceſſively ſpring their luffs, when the point, at which the lee column hauled their wind, bears right to leeward.

Each column having the ſame diſtance to run, if the evolution be well executed, the leaders of the windward columns will find themſelves, when they ſpring their luffs, exactly a-breaſt of the leader of the lee column, and ſo will all the other ſhips. But the making or ſhortening of ſail will, at all events, rectify the inequality of ſailing.

TO TACK THE COLUMNS TOGETHER.

THIS evolution cannot be performed ſafely by all the ſhips *at the ſame inſtant*; nor yet is it neceſſary that one ſhip ſhould finiſh going about, before her next puts in ſtays. But the ſternmoſt ſhips of the three columns put in ſtays together; and, when they are obſerved to be ſo, their ſeconds a-head immediately put their helm down; and ſo on through the whole fleet. Each column will then be in bow-and-quarter line.

TO PLY TO WINDWARD IN COLUMN.

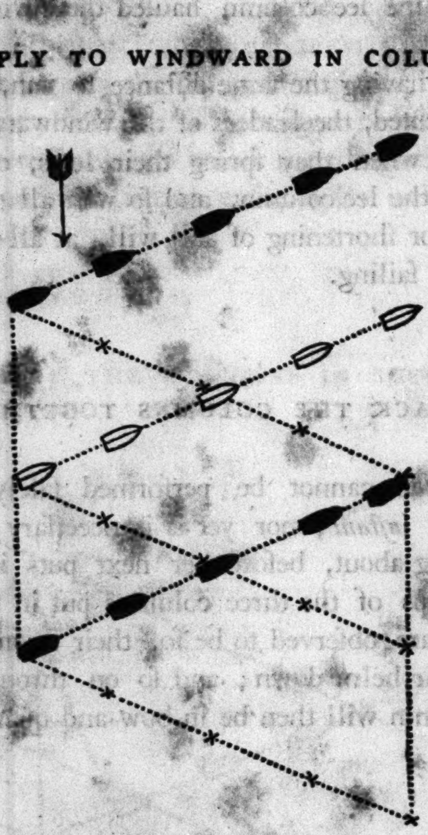


FIG. 22.

THIS is beſt executed when the ſhips of the columns coincide with each other in the direction of the wind, fig. 22, and the evolution is thus performed: the three van ſhips of the columns tack at the ſame time, and the reſt perform ſucceſſively the ſame manœuvre at the ſame point in the wake of their leaders a-head; ſo that there will be always three ſhips at the ſame inſtant in the act of going about.

The van ſhips of the center and lee columns being exactly in the direction of the wind with the leading veſſel of the weather column, it will be found, (if the diſtance between the columns be regulated by the principle before laid down) that the van of the center and lee columns, now on the other tack, will never croſs or interſect the rear of the weather file as it advances to tack. When the van of the lee column, after having got upon the other tack, finds the center ſhip of the center column to bear about half a point to windward of her, the fleet will be tolerably well poſted for working to windward in ſucceſſion. When all the columns have been got on the other tack, the order will ſtill be preſerved.

TO INTERCHANGE THE CENTER AND WEATHER COLUMNS.

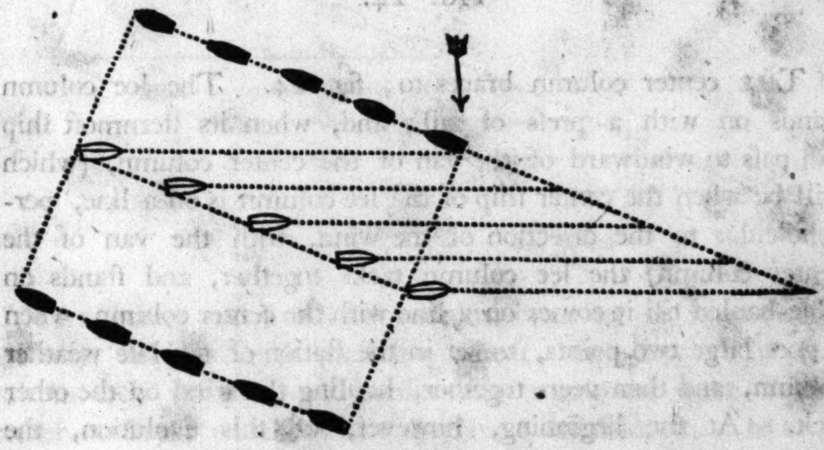


FIG. 23.

THE weather and lee columns lie-to, or at moſt keep ſteerage way; fig. 23. The center column tacks together, and, forming a bow-and-quarter line, goes cloſe-hauled to gain the wake of the weather column; it then re-tacks together, and ſtands on; while the weather column bears away to its new ſtation in the center, and the lee column fills.

TO INTERCHANGE THE WEATHER AND LEE COLUMNS.

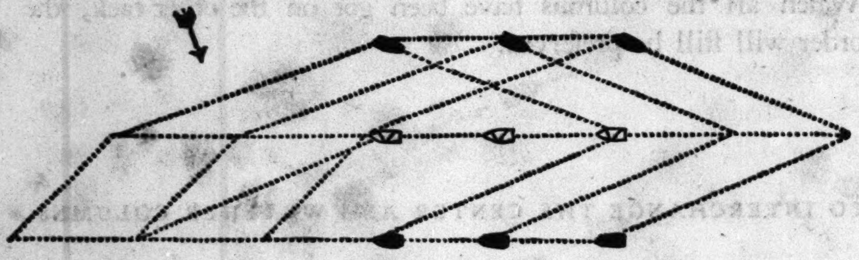


FIG. 24.

The center column braces-to; fig. 24. The lee column ſtands on with a preſs of ſail; and, when its ſternmoſt ſhip can paſs to windward of the van of the center column, (which will be when the center ſhip of the lee column is on a line, perpendicular to the direction of the wind, with the van of the center column) the lee column tacks together, and ſtands on cloſe-hauled till it comes on a line with the center column, when it goes large two points, to get in the ſtation of the late weather column, and then veers together, hauling the wind on the other tack. At the beginning, however, of this evolution, the weather column bears away together under little ſail, and goes large ſix points on the other tack, ſo as to get into the wake of the center column. It then hauls to the former tack, going two points large, till it ranges up a-breaſt of the center column, when it braces-to, waiting for the new weather column.

TO INTERCHANGE THE CENTER AND LEE COLUMNS.

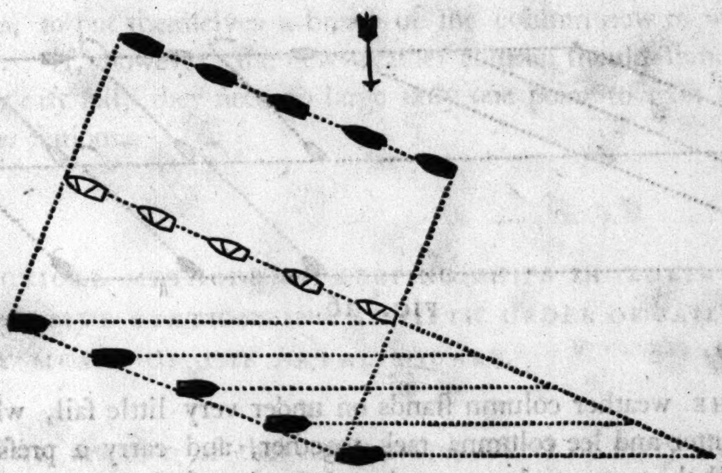


FIG. 25.

The center and weather ſquadrons brace-to, or keep ſteerage-way, whichever is moſt convenient; fig. 25. The lee column tacks together, and preſſes ſail, to gain the wake of the center column; which, when they have effected, they re-tack together, and ſtand on. Then the center edges away under an eaſy ſail, (ſteering, if it lay to, eight points from the wind, and, if it kept ſteerage-way, only two points) till it comes into the ſtation of the lee column, where it hauls to the wind; while the weather column fills and ſtands on; and the order is re-eſtabliſhed by ſhortening or making ſail where requiſite.

THE WEATHER COLUMN TO PASS TO LEEWARD.

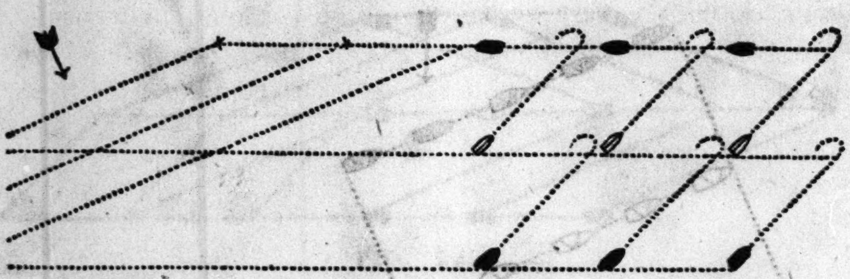


FIG. 26.

The weather column ſtands on under very little ſail, while the center and lee columns tack together, and carry a preſs of ſail till the center column reaches the wake of the weather column; fig. 26; when the center and lee columns re-tack, and crowd ſail till they come up with the weather column; which, having (when they gained its wake) borne away two points, gains its ſtation to leeward, and either hauls to the wind or braces-to, till the new weather and center columns come up.

THE LEE COLUMN TO PASS TO WINDWARD.

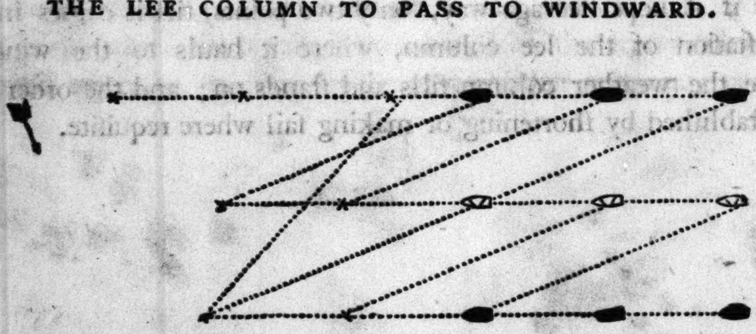


FIG. 27.

The weather and center columns brace-to, while that to leeward carries ſail, fig. 27, and tacks in ſucceſſion, as ſoon as the leading ſhip can weather the headmoſt ſhip of the weather column; and, when arrived upon the line on which the weather column is formed, re-tacks in ſucceſſion, forms on the ſame line, and either braces-to or ſtands on under very little ſail. If it braces-to, the two other columns bear away together two points, to put themſelves a-breaſt of the column now to windward. If, however, the new weather column ſhould ſtand on under eaſy ſail, they need go large only one point to gain their proper ſtations.

PRACTICAL METHODS OF KEEPING SHIPS IN THEIR RESPECTIVE STATIONS IN THE FIFTH ORDER OF SAILING, BY MEANS OF THE NAVAL SQUARE.

THE attention of the commanding officer of every ſhip is neceſſarily drawn to the preſerving his ſhip in the ſtation allotted to her, in whatſoever order the fleet may ſail. This is greatly facilitated by a figure drawn on the quarter deck, which is called the NAVAL SQUARE, of which the conſtruction is here explained.

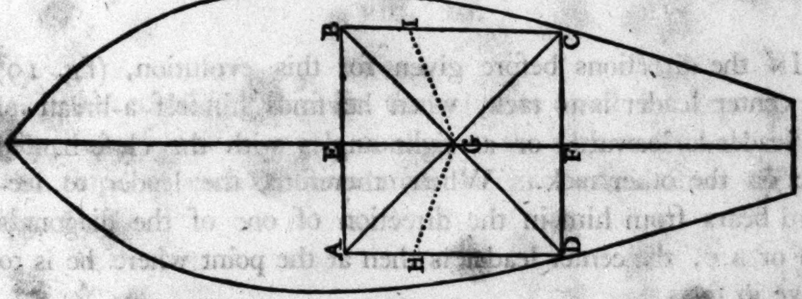


FIG. 28.

Let the ſquare A B C D, fig. 28, be drawn upon the middle of the quarter deck; let the line E F be drawn in the direction of the keel, and draw alſo the two diagonals A C and D B. Now it will be found, that the angles D G E and C G E are each 135°. or 12 points, equal to the two courſes cloſe-hauled on a wind. Draw, therefore, the lines G H and G I, dividing theſe two angles in half; and thoſe lines muſt ſhew the direction of the wind, when cloſe-hauled, upon either tack. If, therefore, a ſhip is running in the direction F E upon the ſtarboard tack, her cloſe-hauled courſe upon the larboard tack will be in the direction of the ſemi-diagonal G C. And, if ſhe be running in the direction of F E upon the larboard tack, her cloſe-hauled courſe upon the ſtarboard tack will be in the direction of the ſemi-diagonal G D.

But, to apply this more particularly to uſe in the order of ſailing,

SUPPOSE THE FLEET IN THREE COLUMNS, CLOSE-HAULED ON EITHER TACK, THE COLUMNS BEING A-BREAST OF EACH OTHER.

THE ſeconds of each ſhip a-head and a-ſtern ſhould be in a direction with the line E F; and the ſhips that are to coincide in the next columns ſhould bear in a line with A B or D C. But,

SUPPOSE THE FLEET, FROM THAT POSITION, IN THE ACT OF GOING ABOUT, THE COLUMNS TACKING IN SUCCESSION.

IN the directions before given for this evolution, (fig. 19) the center leader is to tack, when he finds himſelf a-breaſt of the leader to leeward, or at right angles with the cloſe-hauled line on the other tack. When, therefore, the leader to leeward bears from him in the direction of one of the diagonals B D or A C, the center leader is then at the point where he is to heave in ſtays.

SUPPOSE THE FLEET IN THREE COLUMNS, CLOSE-HAULED; THE COLUMNS COINCIDING IN THE DIRECTION OF THE WIND, IN ORDER TO BEAT TO WINDWARD WITH GREATER FACILITY.

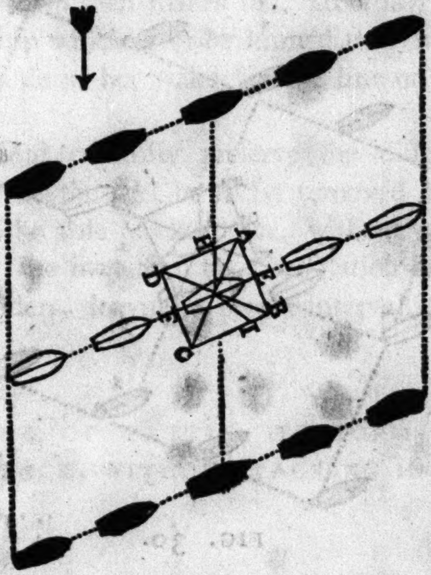


FIG. 29.

The coinciding ſhips in the columns muſt be kept in the direction of G H or G I, according to the tack and wind; while the ſhips of each column muſt be in the direction of E F; fig. 29.

SUPPOSE THE FLEET IN THREE COLUMNS IN ONE OF THE LINES OF BEARING, THE SHIPS BEING CLOSE-HAULED ON THE OTHER TACK.

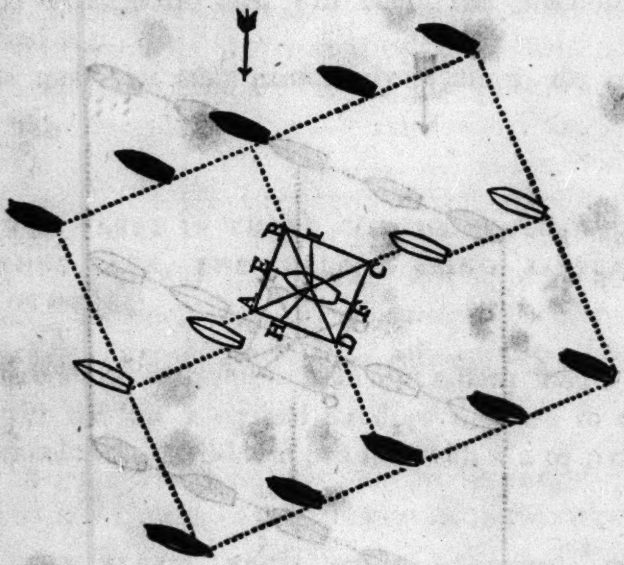


FIG. 30.

The ſhips of each column will be in one of the diagonals; while the coinciding ſhips in the other columns will be in the direction of the other diagonal. And this will equally be ſo, if the columns are in one line of bearing, and going four points large on the ſame tack; fig. 30.

TO FORM THE LINE OF BATTLE.

If the fleet is in no previous order, but promiſcuouſly ſcattered, the ſhip which is to lead runs to leeward of the whole, and then hauls the wind, upon the tack directed, carrying an eaſy ſail. Each ſhip then makes ſail, according to her diſtance, and chaſes the ſhip which is to be immediately a-head of her in the line, and hauls in her wake, in the line on which the van ſhip is moving.

Each ſhip muſt carefully preſerve the diſtance preſcribed; but, ſhould any of the fleet be ſo far removed from her ſecond a-head as not to be able to chace her, without going out of her way to the line, ſhe may then take her ſtation diſcretionally in a line with the leaders, leaving a proper interval.

BEING IN LINE OF BATTLE, TO FORM THE LINE ON THE OTHER TACK, WITHOUT TACKING IN SUCCESSION.

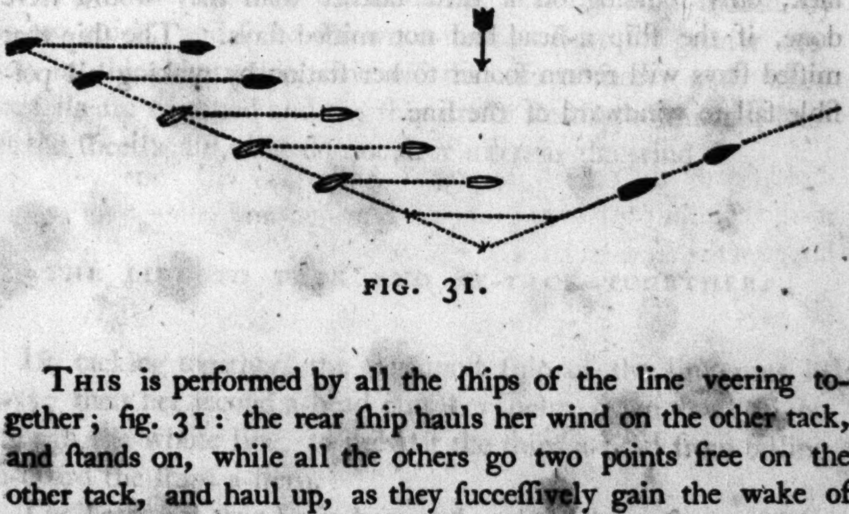


FIG. 31.

This is performed by all the ſhips of the line veering together; fig. 31: the rear ſhip hauls her wind on the other tack, and ſtands on, while all the others go two points free on the other tack, and haul up, as they ſucceſſively gain the wake of the leading ſhip. Thus the rear of the line becomes the van.

THE

THE LINE TO TACK IN SUCCESSION.

EITHER the headmoſt ſhip, which is going to heave in ſtays, ſhould make a little more ſail, or the ſhip which is next to tack in her wake ſhould ſhorten ſail a little, to increaſe the interval; for it often happens that one or two hundred fathoms are run over before the ſhip a-head has been able to fill her ſails on the other tack. The exact moment when each ſhip ſhould put her helm down, is when ſhe opens the weather quarter of the ſhip ſhe follows, and which has juſt got on the other tack. Such ſhips as have already performed the evolution muſt ſhorten ſail, that the reſt may come up, and cloſe the line with the greateſt expedition.

If a ſhip miſſes ſtays, ſhe is immediately to fill again on the ſame tack, and make ſail with all poſſible diſpatch, taking care to keep as cloſe as poſſible to the wind, and not to fall off to leeward. Thus ſhe will get a-head and to windward of thoſe which follow her; and they will perform ſucceſſively their evolutions in the wake of the ſhips which are already on the other tack, only ſtanding on a little farther than they would have done, if the ſhip a-head had not miſſed ſtays. The ſhip that miſſed ſtays will return ſooner to her ſtation by making all poſſible ſail to windward of the line.

THE LINE TO VEER IN SUCCESSION.

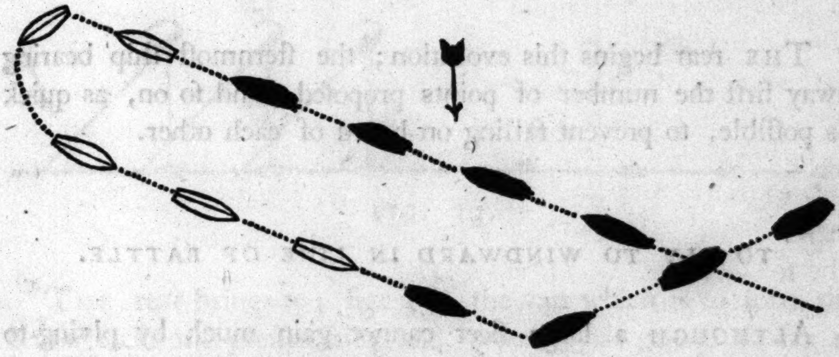


FIG. 32.

The van ſhip of the line veers round, and ſteers four points free upon the other tack, fig. 32; and, when ſhe is clear of the rear ſhip of the line, ſhe ſprings her luff, and gets cloſe-hauled. The reſt follow, and haul in ſucceſſion.

It is adviſable, whenever it is neceſſary to ſpring your luff, not to give too much of the lee-helm, leſt the ſhip ſhould fly up too quick, and ſo be thrown a-ſtern. But, for greater caution in ſhips that gripe, eaſe off the mizen ſheet; and, when the ſails are trimmed and the ſhip under ſteering command, haul aft the ſheet again, but do not ſteer too near the wind.

THE LINE TO TACK AND RE-TACK TOGETHER.

In tacking together, the ſternmoſt ſhip of the line puts in ſtays; then her ſecond a-head puts her helm down, and ſo on through the whole line, to prevent the ſhips a-head from falling on-board the ſhips a-ſtern.

The fleet will then be in bow-and-quarter line; from which, if tacking together, no ſhip muſt put in ſtays till the ſhip on her weather quarter is in the act of tacking.

THE LINE TO BEAR AWAY TOGETHER, PRESERVING THEIR BEARINGS FOR THE LINE.

THE rear begins this evolution; the ſternmoſt ſhip bearing away firſt the number of points propoſed; and ſo on, as quick as poſſible, to prevent falling on-board of each other.

TO PLY TO WINDWARD IN LINE OF BATTLE.

ALTHOUGH a large fleet cannot gain much by plying to windward, it is often neceſſary to be done; nor can it be ſo well effected as in line of battle, for it can tack and re-tack, all together or in ſucceſſion, according to the exigency of circumſtances. For example, if a fleet be turning to windward between two ſhores, the wind blowing right through the ſtrait, it can ſtand on one tack only to a certain point, if the fleet tacks together; for the ſhips to leeward would ſoon find themſelves cloſe to the ſhore on one tack, while the ſhips to windward would experience the ſame inconvenience on the next tack; and thus a number of ſhort tacks would be occaſioned. But, if the fleet were to go about in ſucceſſion, it will make longer boards, gain more to windward, and loſe leſs time.

If the fleet have ſea-room, or be turning on a coaſt with the wind parallel to the land, they will gain much more by all the ſhips going about together, by which the ſhips will be on one tack in bow-and-quarter line, and on the other in line of battle. Each ſhip going about at the ſame inſtant as the others, the fleet muſt get to windward as much as if a ſingle ſhip was turning to windward.

TO INTERCHANGE THE CENTER AND VAN SQUADRONS.

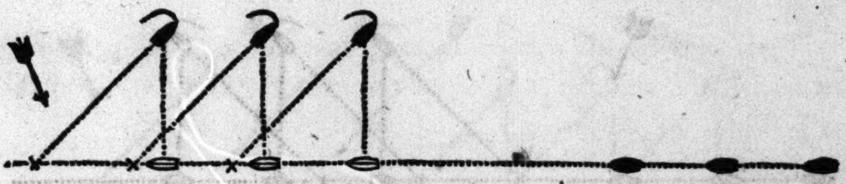


FIG. 33.

The rear brings-to; fig. 33; the van which is to form the center tacks and preſſes ſail; and, when it has gained ſo far as to be ſhip to ſhip a-breaſt of the former center, (which has been ſtanding on, to gain the head of the line) the van then re-tacks, and bears away a little to gain the wake of the new van. When the former van is in the act of re-tacking, the rear fills and ſtands on under an eaſy ſail.

But the evolution will be more quickly executed in this

SECOND METHOD.

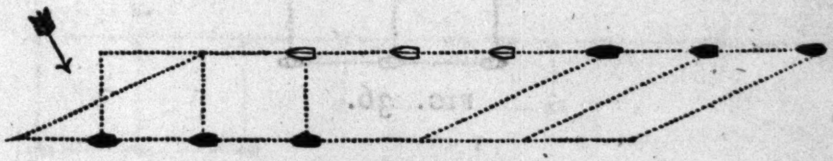


FIG. 34.

The van ſquadron bears away a little, and braces-to the main topſail; fig. 34; the center paſſes on to windward, edging away a little, to get a-head of the former van on the ſame line. The rear, coming on under an eaſy ſail, edges away likewiſe, to obtain the wake of the new center ſquadron.

TO INTERCHANGE THE CENTER AND REAR SQUADRONS.

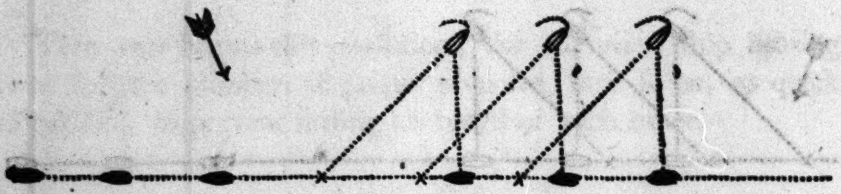


FIG. 35.

The van brings-to, or juſt keeps ſteerage way; fig. 35. The center tacks and preſſes ſail, and the rear ſtands on. When the center finds itſelf ſhip to ſhip a-breaſt of the new center, it either re-tacks or bears away, to take its ſtation as rear. When the new center is come up, the van, if it brought to, fills and ſtands on.

SECOND METHOD.

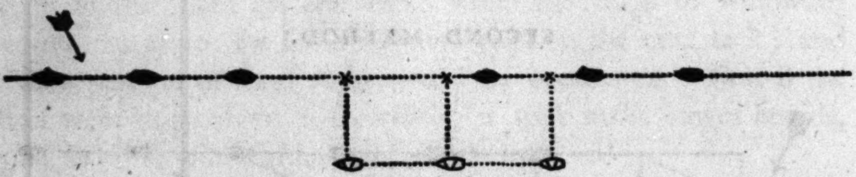


FIG. 36.

If circumſtances will not allow the center to tack, ſuch as if the fleet be in preſence of an enemy to windward, or if no inconvenience will reſult from falling a little to leeward, the evolution may be quickly executed thus; fig. 36: the van ſtands on under eaſy ſail, while the center bears away a little and braces-to, and the rear crowds ſail to paſs the center to windward, and get into the wake of the van. The van and center then edge away to gain the line with the new rear ſquadron, which then fills.

TO INTERCHANGE THE VAN AND REAR SQUADRONS.

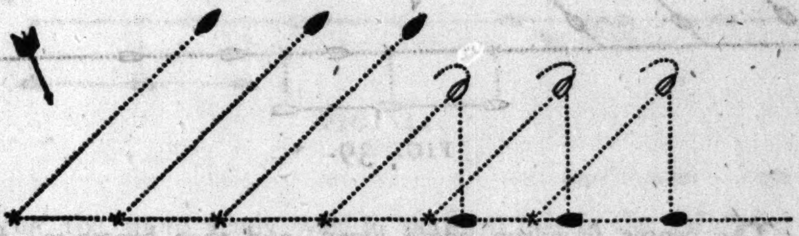


FIG. 37.

The van and center ſquadrons tack together, fig. 37, the van preſſing ſail; the rear ſtands on under an eaſy ſail. When the center comes to be a-breaſt of the rear, it re-tacks together, and edges away into the wake of the new van; and when the former van finds itſelf a-breaſt of the center, it re-tacks together, and bears away into the rear of the line.

SECOND METHOD.

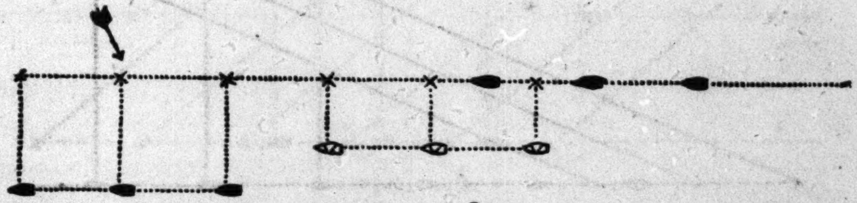


FIG. 38.

This evolution may be likewiſe executed thus; fig. 38: the van and center ſquadrons bear away a little, and brace-to; the van obſerving to bear away more to leeward than the center. The rear ſtands on to gain the head of the line; when the rear is come a-breaſt of the former van, the center fills, and, both ſtanding on, form a-head of the new rear, by edging down upon the ſame line with it. By theſe means the fleet will fall more to leeward than in the following method.

THIRD METHOD.

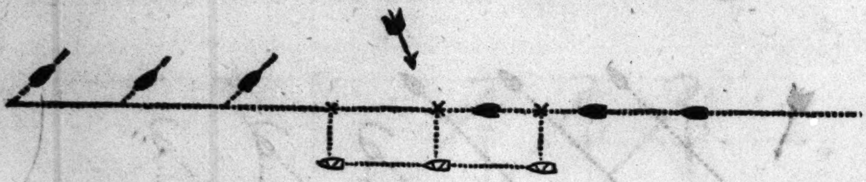


FIG. 39.

The center ſquadron edges away, and then braces-to; fig. 39; the van, at the ſame time, tacks together; and the rear makes ſail to gain the van of the fleet, and forms on the line with the center. The center then fills, and the former van ſquadron, when a-breaſt of the center, veers to form the rear of the line.

THE VAN TO PASS AND FORM THE REAR.

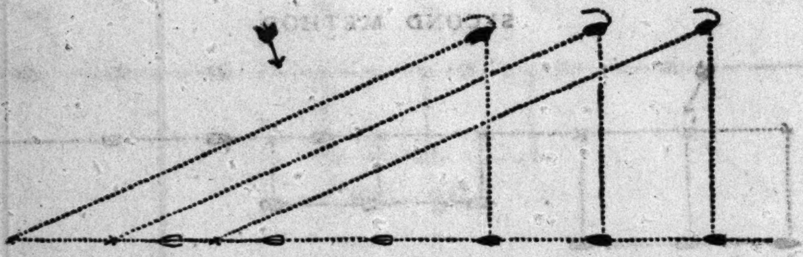


FIG. 40.

The center and rear move on, fig. 40; the van tacks together, and runs two points free, till it finds itſelf a-breaſt of the former rear. It then re-tacks together, bears away into the rear of the line, and hauls the wind. All the ſquadrons ſhould carry a preſs of ſail; but the van, which has to tack twice, ſhould carry moſt.

SECOND METHOD.

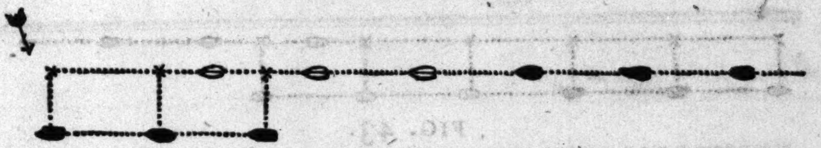


FIG. 41.

But the more ready way to perform this is the following; fig. 41. The van ſquadron edges a little away, and braces-to; the other two ſquadrons, crowding ſail, ſtand on till they get a-head of the new rear; and then edge away a little, to form on the line; after which the rear fills.

THE REAR TO PASS AND FORM THE VAN.

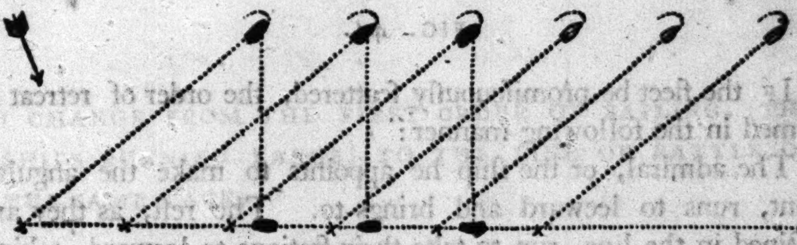


FIG. 42.

The van and center ſquadrons tack together; the rear ſtands on, preſſing ſail; fig. 42. When the former van finds itſelf ſhip to ſhip a-breaſt of the former rear, the van and center re-tack together; and, while they bear away for the rear of the line, the new van ſhortens ſail.

SECOND METHOD.

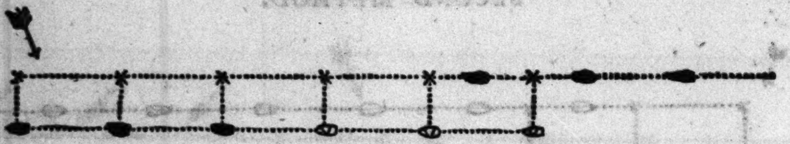


FIG. 43.

A ſecond method, more expeditious, is this; fig. 43: the van and center bear away a little and brace-to; the rear makes ſail, paſſes a-head of both, and then edges away to form on the ſame line.

TO FORM THE ORDER OF RETREAT.

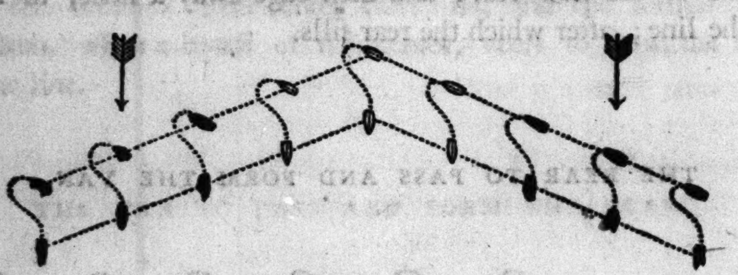


FIG. 44.

If the fleet be promiſcuouſly ſcattered, the order of retreat is formed in the following manner:

The admiral, or the ſhip he appoints to make the angular point, runs to leeward and brings-to. The reſt, as they are deſtined in the line, run to take their ſtations to leeward, taking care to preſerve themſelves in their reſpective lines of bearing. For example; fig. 44: the wind being N, the admiral brings-to W N W, ſtarboard tack. The ſhips of one wing will form on his larboard bow, with their main maſts bearing W S W and E N E; and the ſhips of the other wing will bring-to a-ſtern of the angular ſhip, with their main maſts bearing W N W and E S E. When the fleet bears away before the wind, the ſhips will find themſelves two points before each other's beams, ready to form for either tack; for the ſhips on the admiral's ſtarboard bow will be in the line of bearing for the larboard tack, while thoſe on his larboard bow will be in the line of bearing for the ſtarboard tack.

TO CHANGE FROM ONE ORDER TO ANOTHER.

TO CHANGE FROM THE FIRST ORDER OF SAILING, (THE SHIPS BEING CLOSE-HAULED) TO THE LINE OF BATTLE ON THE OTHER TACK.

This is effected by all tacking together; but it muſt be obſerved, that no ſhip is to put in ſtays till the ſhip on her weather quarter is in the act of tacking.

TO CHANGE FROM THE FIRST ORDER OF SAILING, (THE SHIPS RUNNING LARGE) TO THE LINE OF BATTLE ON THE SAME TACK.

All the ſhips ſpring their luffs together, or at leaſt *immediately* after the ſhip next to windward.

TO CHANGE FROM THE FIRST ORDER OF SAILING, (THE SHIPS BEING IN BEARING FOR ONE TACK, AND RUNNING CLOSE-HAULED ON THE OTHER) TO THE LINE OF BATTLE, WITHOUT CHANGING THE TACK.

The laſt ſhip of the rear, which by this evolution will become the firſt of the van, ſtands on, preſſing ſail, fig. 31; while the reſt, in ſucceſſion, ſteer for the main maſts of their reſpective leaders, or merely bear away two points, and they will fall into the wake of the veſſels a-head; when they haul up, and make ſail accordingly.

TO CHANGE FROM THE SECOND ORDER OF SAILING, (THE SHIPS RUNNING LARGE OR BEFORE THE WIND,) TO THE LINE OF BATTLE.

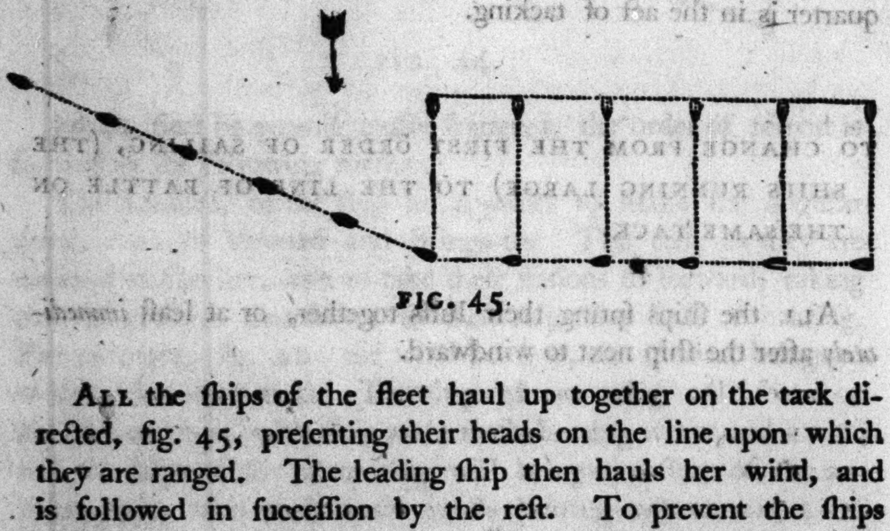


FIG. 45.

All the ſhips of the fleet haul up together on the tack directed, fig. 45, preſenting their heads on the line upon which they are ranged. The leading ſhip then hauls her wind, and is followed in ſucceſſion by the reſt. To prevent the ſhips being too near each other, the ſhips make ſail as they haul their wind; or their ſeconds a-ſtern ſhorten ſail, to open the order.

If a fleet were ranged upon any other line whatever than that which is peculiar to the ſecond order of ſailing, theſe directions would equally apply for forming the line therefrom.

TO

TO CHANGE FROM THE THIRD ORDER OF SAILING, (THE SHIPS RUNNING LARGE OR BEFORE THE WIND) TO THE LINE OF BATTLE.

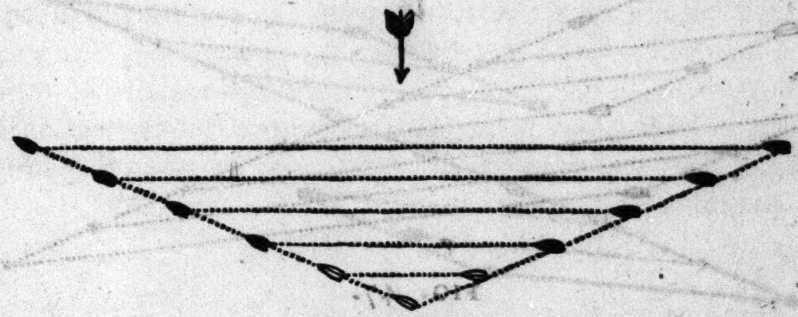


FIG. 46.

The angular ſhip, and that wing of the fleet which is in bearing for the tack on which the line is to be formed, ſpring their luffs together, and ſtand-on; fig. 46. The ſhips of the other wing haul up together; move on perpendicular to the wind; and form in each other's wake, when they haul up for the line.

TO CHANGE FROM THE FIFTH ORDER TO THE LINE OF BATTLE ON THE SAME TACK, THE WEATHER COLUMN FORMING THE VAN, AND THE LEE COLUMN THE REAR.

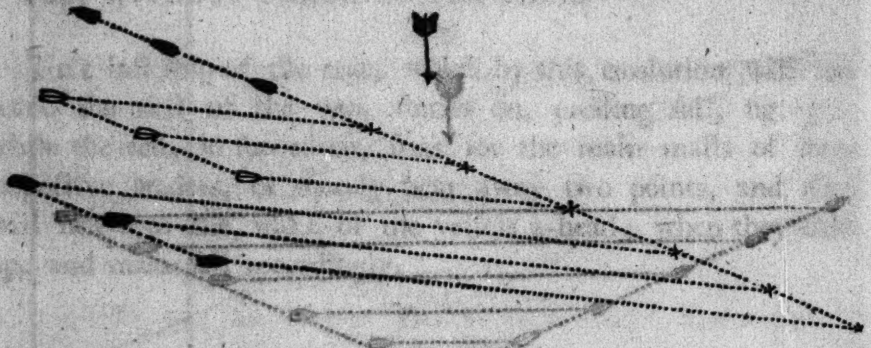


FIG. 47.

The weather column brings-to; fig. 47; the center and lee columns tack together, and go away three points free. When the center column has gained the wake of the van, it re-tacks together, and brings to. When the lee column has gained the rear of the line, it re-tacks together, and then all ſtand on.

SECOND METHOD.

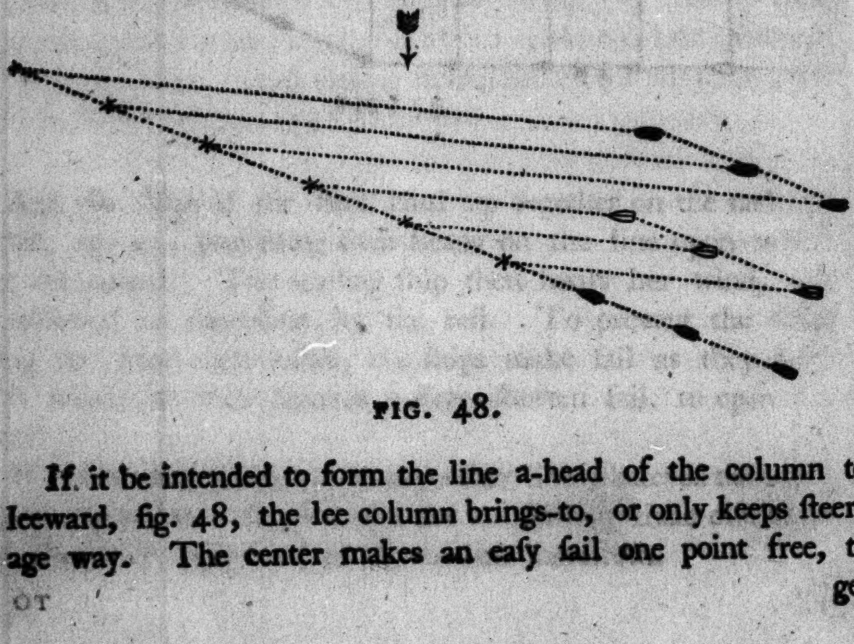


FIG. 48.

If it be intended to form the line a-head of the column to leeward, fig. 48, the lee column brings-to, or only keeps ſteerage way. The center makes an eaſy ſail one point free, to get a-head of the rear ſquadron; while the van preſſes ſail alſo one point free, to get a-head of the center diviſion.

THIRD METHOD.

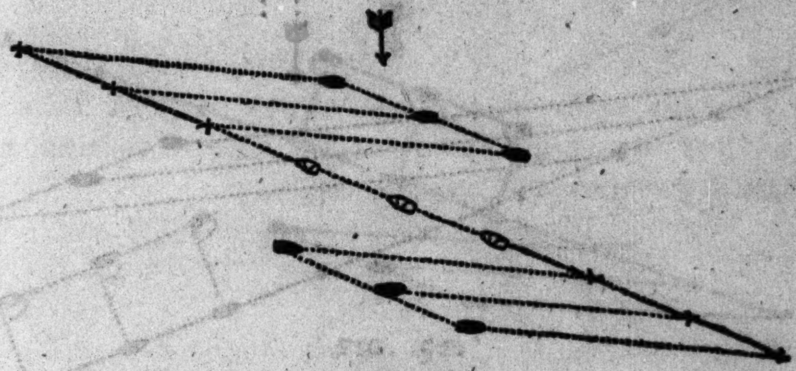


FIG. 49.

The two preceding evolutions have their advantages in different circumſtances; but the moſt general mode is the following, which is indeed a combination of the other two:

The center brings-to; fig. 49. The weather column bears away one point, and places itſelf a-head of the center. The lee column tacks together, and runs three points free under a preſs of ſail, to gain the wake of the center, when it re-tacks together, and completes the line. If the center keeps ſteerage-way, then the lee column muſt go leſs free.

TO CHANGE FROM THE FIFTH ORDER TO THE LINE OF BATTLE ON THE SAME TACK, THE CENTER AND LEE COLUMNS INTERCHANGING.

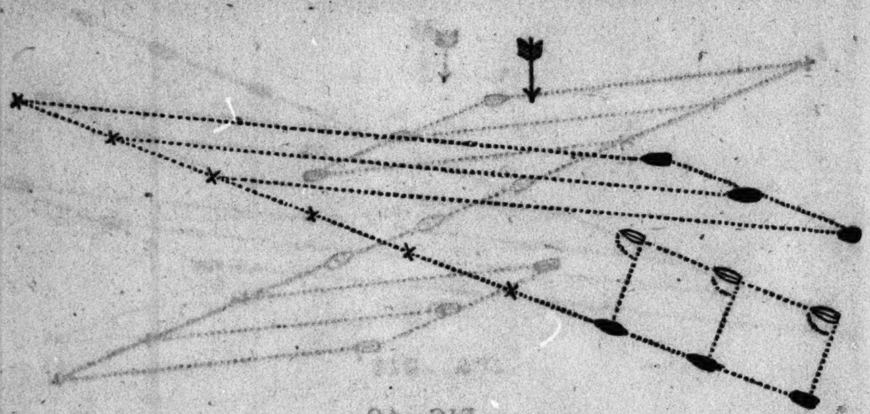


FIG. 50.

THE lee column ſtands on under an eaſy ſail, keeping as cloſe as poſſible to the wind; fig. 50. The center brings to until it can bear down into the wake of the new center ſquadron; or it may veer round, and go under eaſy ſail ſix points large on the other tack, and ſo gain the rear of the line. The weather column will, from the beginning, bear away two points under a preſs of ſail, to reach the head of the line.

TO

TO CHANGE FROM THE FIFTH ORDER TO THE LINE OF BATTLE ON THE SAME TACK, THE WEATHER AND CENTER COLUMNS INTERCHANGING.

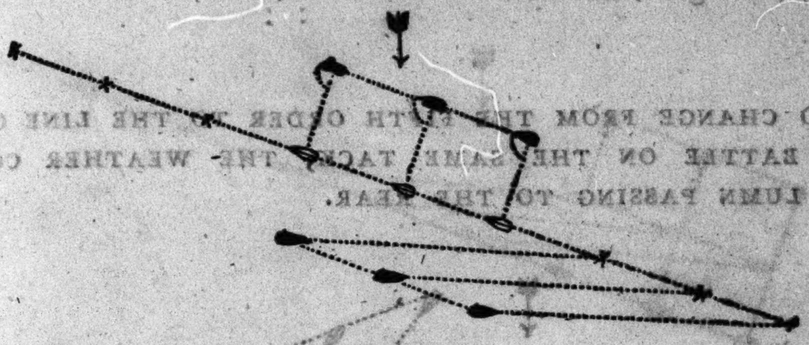


FIG. 51.

The center column ſtands on; fig. 51. The lee column tacks together, and goes under a preſs of ſail, from a little to two points large, ſo as juſt to gain the rear of the line; which when accompliſhed, it re-tacks together, while the weather column, bearing away eight points, will occupy the ſtation left vacant by the new van ſquadron.

SECOND METHOD.

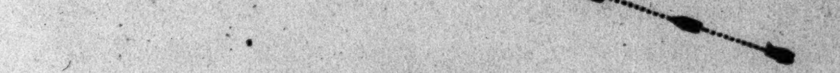


FIG. 52.

If the line is to be formed a-head of the lee column, fig. 52, that ſquadron muſt bring to. The center ſquadron will bear away together one point, and carry ſail to gain the head of the line; and the weather ſquadron will bear away together three points under an eaſy ſail to gain the wake of the new van ſquadron.

This evolution is particularly expedient when the ſhips of the rear ſquadron are very wide apart, or when ſome of them are very far a-ſtern, as it gives them time to come up, and form at their regular diſtances.

TO CHANGE FROM THE FIFTH ORDER TO THE LINE OF BATTLE ON THE SAME TACK, THE WEATHER COLUMN PASSING TO THE REAR.

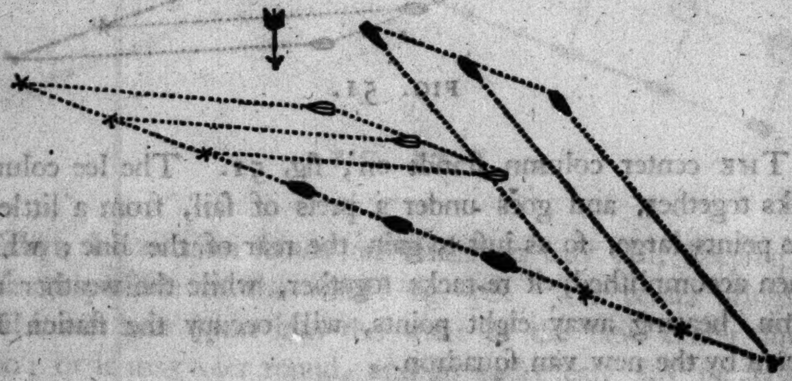


FIG. 53.

THE lee column brings to, or keeps only ſteerage way, as cloſe to the wind as poſſible; fig. 53. The center column bears away together two points, and forms on the line a-head of the new center ſquadron. The weather column veering together, and going ſeven points free on the other tack, will gain its ſtation in the rear under an eaſy ſail.

TO CHANGE FROM THE FIFTH ORDER TO THE LINE OF BATTLE ON THE SAME TACK, THE WEATHER AND LEE COLUMNS INTERCHANGING.

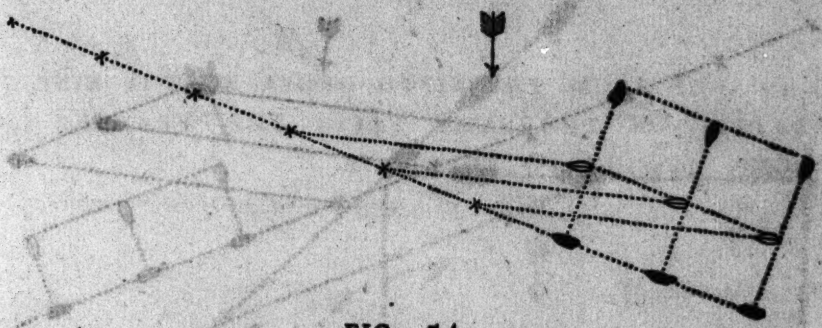


FIG. 54.

The lee column ſtands on under a preſs of ſail; fig. 54. The center column bears away two points, with very little ſail, to get into the wake of the new van ſquadron; while the weather column, bearing away eight points, and making alſo little ſail, will gain the rear of the line.

TO CHANGE FROM THE FIFTH ORDER TO THE LINE OF BATTLE ON THE SAME TACK; THE LEE COLUMN PASSING TO THE VAN.

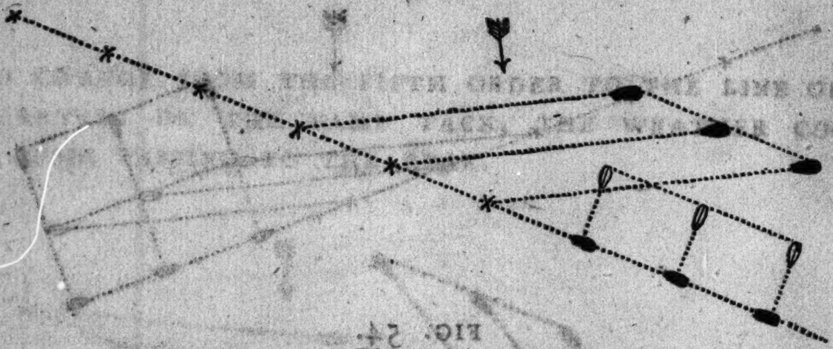


FIG. 55.

The lee column ſtands on, carrying ſail; fig. 55. The center column bears away together eight points, under very little ſail, to gain the rear of the line. The weather column bears away together three points, under an eaſy ſail. When the weather and center columns are in the wake of the new van ſquadron they ſpring their luffs.

TO CHANGE FROM THE FIFTH ORDER TO THE LINE OF BATTLE ON THE OTHER TACK.

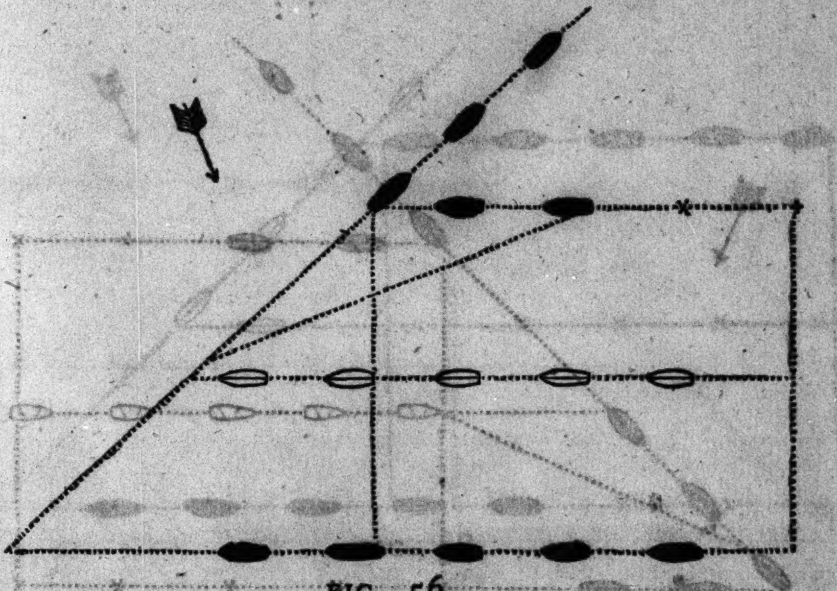


FIG. 56.

THE weather column begins the evolution by tacking in ſucceſſion; fig. 56. The center and lee columns ſtand on, till their reſpective leaders can tack in the wake of the line, when they tack in ſucceſſion.

The two columns to leeward muſt carry an eaſy ſail, leſt they draw too near the rear of the weather column. Should that, however, be the caſe, let the leader of the center column be careful, and keep ſomewhat to leeward of the ſternmoſt ſhip of the weather column; and the leader of the lee column muſt act in the ſame manner by the center column: or they may ſtand on beyond the wake of the column immediately to windward of them reſpectively, and tack to windward. They may then take their ſtations, and form the line with facility.

TO CHANGE FROM THE FIFTH ORDER TO THE LINE OF BATTLE ON THE OTHER TACK, THE CENTER AND LEE COLUMNS INTERCHANGING.

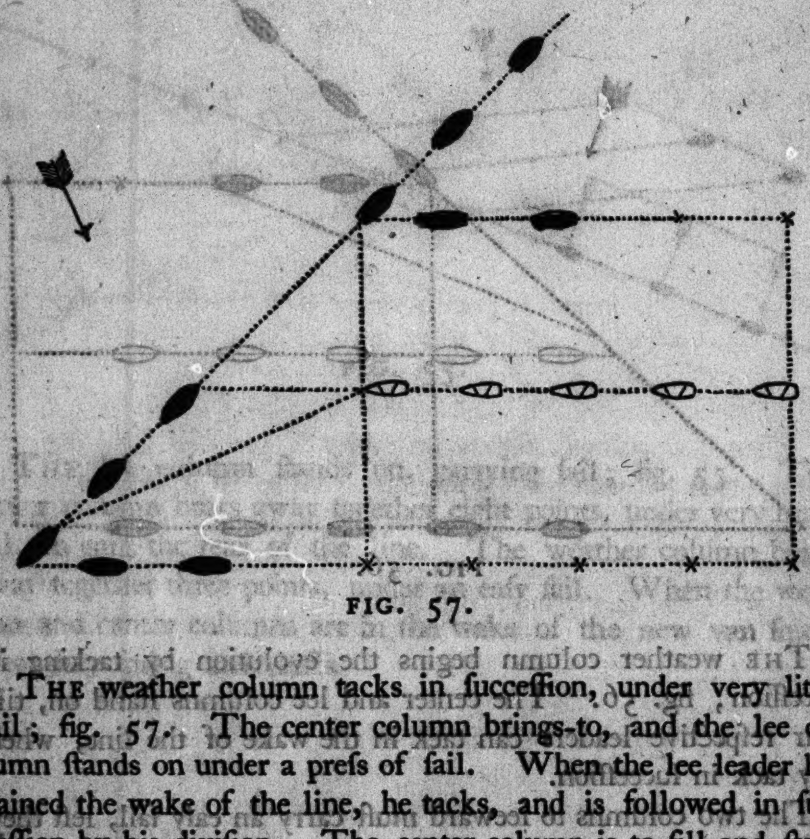


FIG. 57.

The weather column tacks in ſucceſſion, under very little ſail; fig. 57. The center column brings-to, and the lee column ſtands on under a preſs of ſail. When the lee leader has gained the wake of the line, he tacks, and is followed in ſucceſſion by his diviſion. The center column is to fill and ſtand on, when its firſt ſhip and the laſt ſhip of the lee column bear from each other in a line perpendicular to the direction of the wind, or when the center ſhip of the lee column paſſes a-head of the center column. Theſe two bearings will of courſe occur at the ſame inſtant, if the ſhips manœuvre with preciſion.

TO CHANGE FROM THE FIFTH ORDER TO THE LINE OF BATTLE ON THE OTHER TACK, THE WEATHER AND CENTER COLUMNS INTERCHANGING.

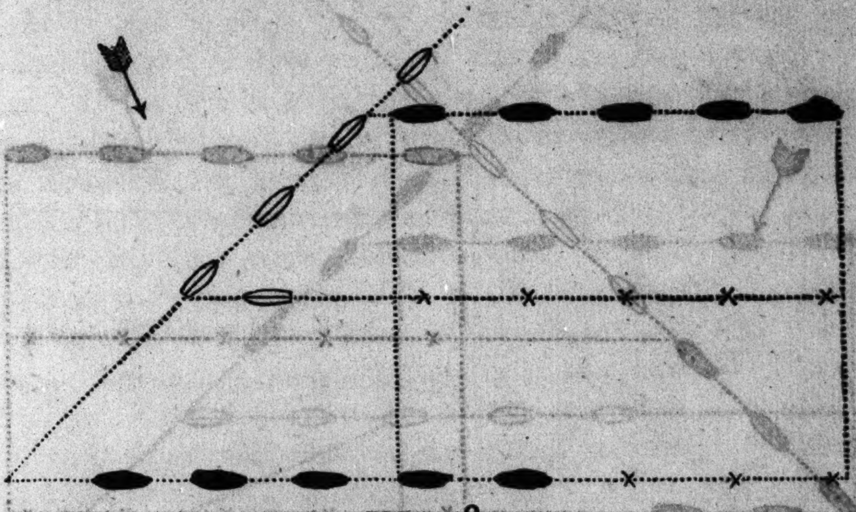


FIG. 58.

The weather column brings-to; fig. 58. The center, carrying ſail, ſtands on, and tacks in ſucceſſion, when its leader is far enough to paſs on the other tack at ſome diſtance a-head of the weather column; which fills when the laſt ſhip of the new van has got into her ſtation; and tacks in ſucceſſion, when the weather leader is in the wake of the van ſquadron. The lee column ſtands on, and tacks in ſucceſſion in the ſame line with the van; but the lee column muſt not come up too faſt, that a ſufficient interval may be left for the weather column to occupy. After this evolution, which is liable to open the order too much, the admiral will probably make the ſignal for cloſing the line.

TO CHANGE FROM THE FIFTH ORDER TO THE LINE OF BATTLE ON THE OTHER TACK, THE WEATHER COLUMN PASSING TO THE REAR.

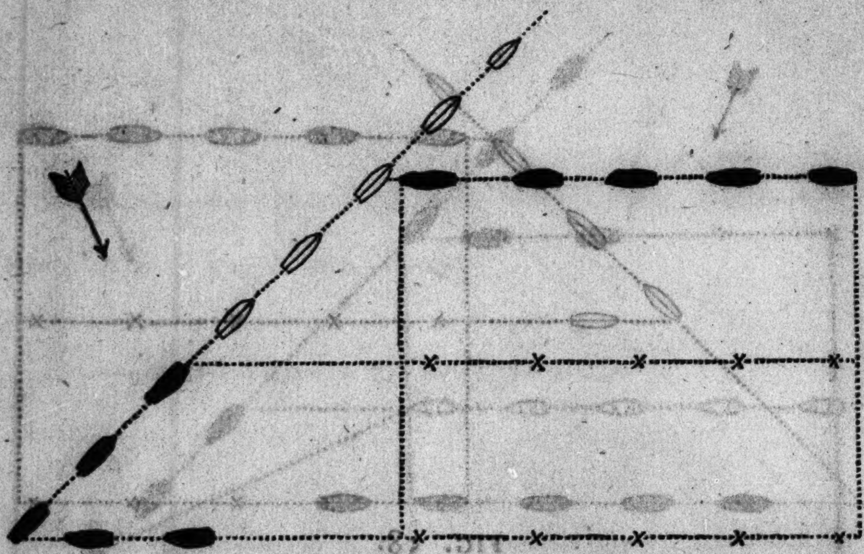


FIG. 59.

The weather column brings-to; fig. 59. The other columns make ſail, and ſtand on, till they can paſs on the other tack a-head of the column brought-to; when they tack in ſucceſſion. When both columns have paſſed the weather column, it fills, tacks in ſucceſſion, and forms the rear.

TO CHANGE FROM THE FIFTH ORDER TO THE LINE OF BATTLE ON THE OTHER TACK, THE WEATHER AND LEE COLUMNS INTERCHANGING.

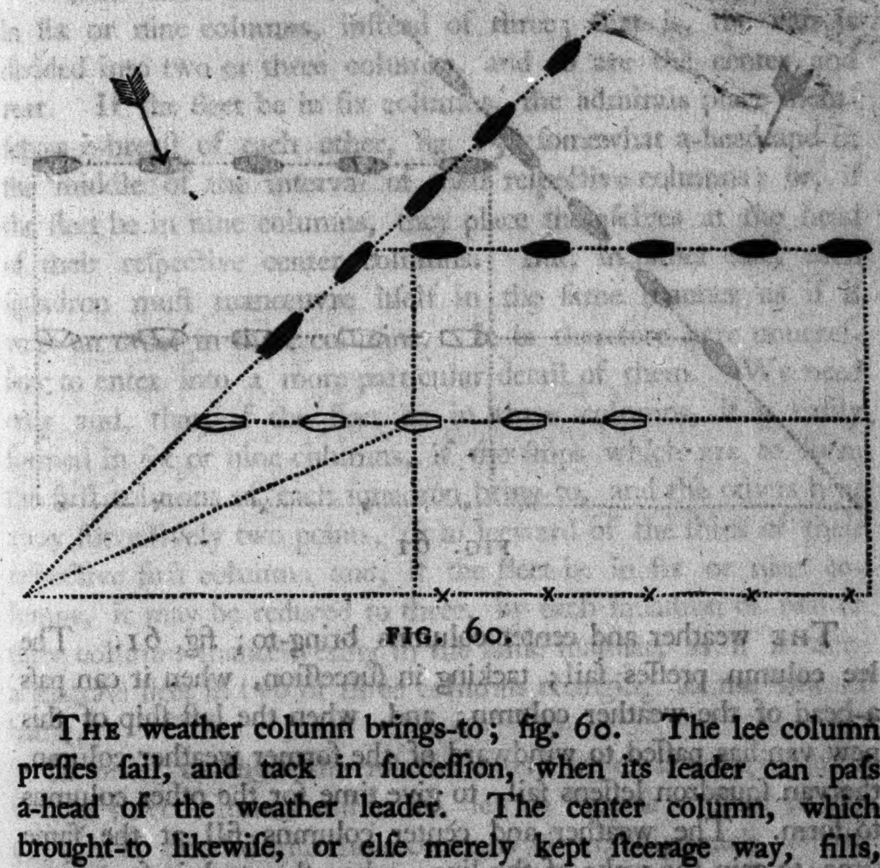


FIG. 60.

The weather column brings-to; fig. 60. The lee column preſſes ſail, and tack in ſucceſſion, when its leader can paſs a-head of the weather leader. The center column, which brought-to likewiſe, or elſe merely kept ſteerage way, fills, when its leading ſhip and the laſt ſhip of the lee column bear, from each other, in a line perpendicular to the direction of the wind. The weather column manœuvres in the ſame manner as the center, in order to take its ſtation as the rear guard of the line.

TO CHANGE FROM THE FIFTH ORDER TO THE LINE OF BATTLE ON THE OTHER TACK, THE LEE COLUMN PASSING TO THE VAN.

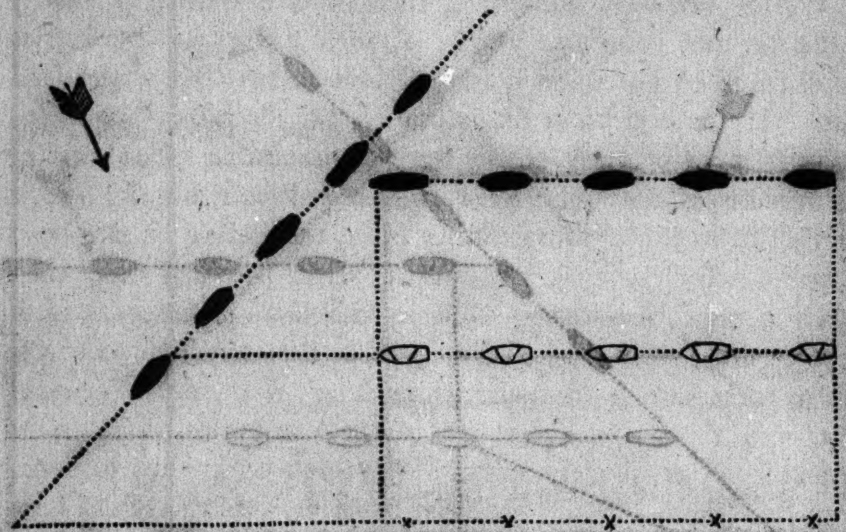


FIG. 61.

The weather and center columns bring-to; fig. 61. The lee column preſſes ſail; tacking in ſucceſſion, when it can paſs a-head of the weather column; and, when the laſt ſhip of this new van has paſſed to windward of the former weather column, the van ſquadron leſſens ſail, to give time for the other columns to form. The weather and center columns fill at the ſame time, to gain the wake of the line; when they tack in ſucceſſion.

OF

OF MANOEUVERING IN THE FIFTH ORDER OF SAILING IN SIX OR NINE COLUMNS.

When fleets are numerous, their order of ſailing is uſually in ſix or nine columns, inſtead of three; that is, the van is divided into two or three columns, and ſo are the center and rear. If the fleet be in ſix columns, the admirals place themſelves a-breaſt of each other, fig. 15, ſomewhat a-head and in the middle of the interval of their reſpective columns; or, if the fleet be in nine columns, they place themſelves at the head of their reſpective center columns. But, in either caſe, each ſquadron muſt manœuvre itſelf in the ſame manner as if it were an order in three columns. It is therefore here unneceſſary to enter into a more particular detail of them. We need only add, that, if the fleet be in three columns, it is eaſily formed in ſix or nine columns, if the ſhips which are to form the firſt columns of each ſquadron bring-to, and the others bear away ſucceſſively two points, or to leeward of the ſhips of their reſpective firſt column: and, if the fleet be in ſix or nine columns, it may be reduced to three, by each ſquadron of two or three columns manœuvering in the ſame manner, as if it were a ſeparate fleet in two or three columns changing to the line of battle.

In order to ſhew the relative extent which is occupied by a fleet in three columns and in ſix, let us ſuppoſe a fleet of 60 ſhips. If divided into three columns of 20 ſhips each, diſtant from each other's main maſts one cable's length, the length of a column will be 19 cables nearly, and the diſtance between the columns muſt be 8 cables: conſequently the front of the order will be 16 cables, and the whole extent occupied by the fleet will be 304 ſquared cables. The ſame fleet, divided into 6 columns of 10 ſhips each, will have its columns 9 cables long; and the columns being diſtant from each other 3¾ cables, the whole front will be 18¾ cables, and the whole extent occupied by the fleet will be only 109 ſquared cables. The fleet is thus in a more connected form in ſix than in three columns: nor is this the only advantage; for the laſt ſhip of the lee column being, in the latter caſe, farther a-ſtern than in the former, it follows that it muſt be more to leeward. For large fleets, therefore, this form of ſix or nine columns is well adapted; ſince their ſtations will be eaſily preſerved, the ſignals better ſeen, and leſs time will be conſumed in evolutions, particularly in reducing it to the order of battle.

TO CHANGE FROM THE LINE OF BATTLE TO THE FIRST ORDER OF SAILING, CLOSE-HAULED ON THE OTHER TACK.

All the ſhips tack together, by which their tack and line of bearing will be different; that is, they will be in bearing to form the line on the tack which they have left. The ſternmoſt ſhip of the line puts firſt in ſtays; and, when ſhe is obſerved to be ſo, her ſecond a-head *immediately* puts the helm down; and ſo on through the whole line.

TO CHANGE FROM THE LINE OF BATTLE TO THE FIRST ORDER OF SAILING, RUNNING LARGE ON THE SAME TACK.

All the ſhips bear away together the number of points directed by the admiral, obſerving to keep themſelves in bearing for the tack they are on. The ſternmoſt ſhip bears away firſt, and ſo on as quick as poſſible, to prevent being too near each other.

TO CHANGE FROM THE LINE OF BATTLE TO THE FIRST ORDER OF SAILING, IN BEARING FOR THE LINE ON THE OTHER TACK.

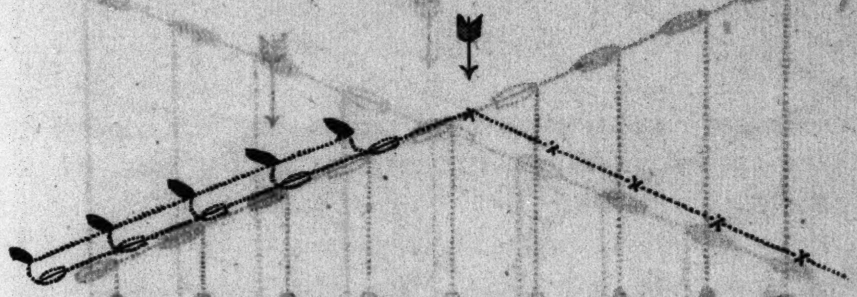


FIG. 62.

THE leader bears away four points to leeward, followed in ſucceſſion by the reſt; fig. 62. When the ſternmoſt ſhip has bore away, the whole haul up, and they will be in bearing for the line on the other tack.

TO CHANGE FROM THE LINE OF BATTLE TO THE SECOND ORDER OF SAILING, RUNNING BEFORE THE WIND.

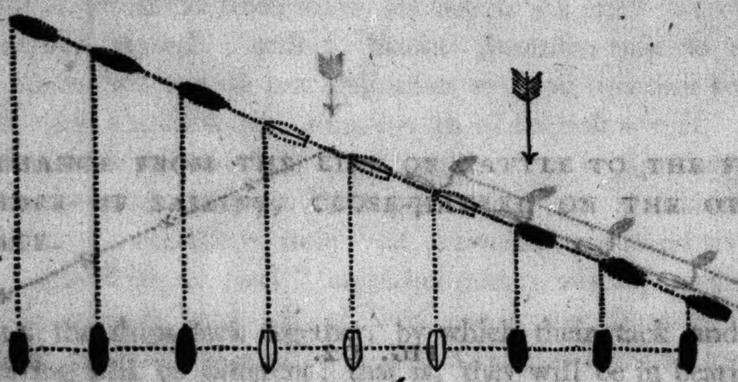


FIG. 63.

THE whole bear away together ten points, fig. 63, and ſo proportion their ſailing from the head to the rear of the line, that, when the headmoſt ſhip, which firſt preſſes ſail, ſhall come a-breaſt of the ſecond ſhip, the ſecond ſhip adapts her ſail to keep in this bearing; and ſo on all through; each obſerving to keep the ſhip that immediately preceded her in the evolution in a line with herſelf, perpendicular to the direction of the wind. This will rather cloſe the line; but, if it be deſired to preſerve the ſame diſtance between the ſhips as there was when in line of battle, they muſt bear away only nine points, obſerving ſtill the directions for keeping a-breaſt of each other.

In the ſecond order of ſailing the ſhips are ranged on a line perpendicular to tbe direction of the wind; but, if it be intended to form a line a-breaſt upon any other line, the number of points which the fleet muſt bear away may be known thus: add to 8, (being one fourth of the points on the compaſs) one half of the number of points between that on which the ſhips are ranged, and that on which they are intended to be ranged. For inſtance, ſuppoſe a fleet, ranged on the W N W line in order of battle, is to be formed in line a-breaſt on the S W line. Between WNW and SW are 6 points, of which the half, 3, added to 8, gives 11 points, which the fleet is to bear away to form on the S W line.

TO CHANGE FROM THE LINE OF BATTLE TO THE THIRD ORDER OF SAILING, SO AS TO RE-FORM THE LINE, UPON EITHER TACK.

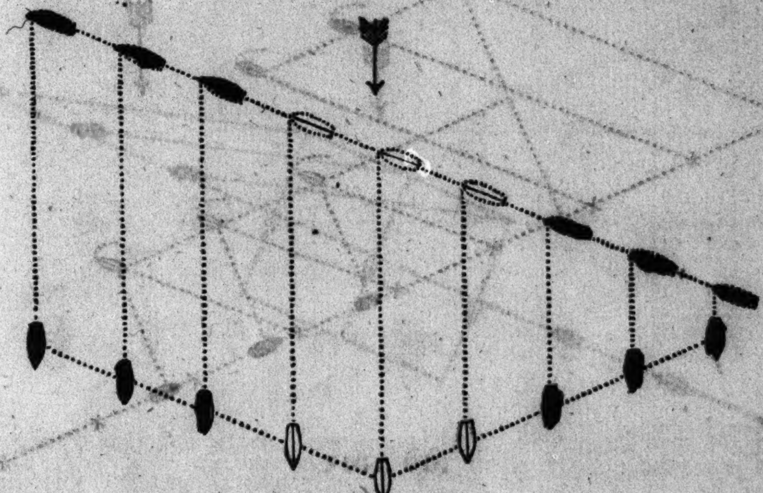


FIG. 64.

All the ſhips bear away together ten points; fig. 64. One half of the line, from the head to the center ſhip incluſive, carry an equal degree of ſail, in order to preſerve their line of bearing: but the remainder of the ſhips carry ſail in ſucceſſion, and only in ſuch degrees as will form and preſerve them on that cloſe-hauled line upon which they were *not* running before this evolution.

TO CHANGE FROM THE LINE OF BATTLE TO THE FIFTH ORDER OF SAILING ON THE SAME TACK.

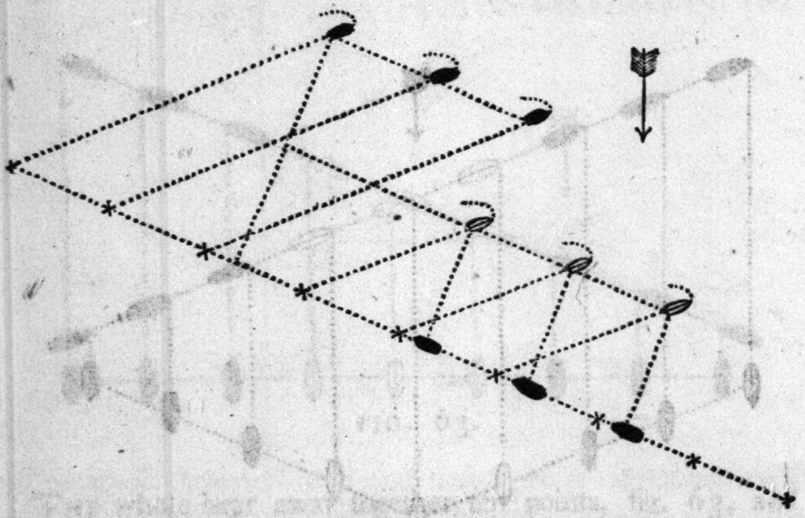


FIG. 65.

To perform this evolution, and at the ſame time keep to windward as much as poſſible, the van and center tack together, fig. 65, and run cloſe-hauled in bow-and-quarter line. The center re-tacks, when it is ſhip to ſhip a-breaſt of the rear. The van ſtands on till the center and rear come up, and then it re-tacks; and all the columns regulate their diſtances.

TO

TO CHANGE FROM THE LINE OF BATTLE TO THE FIFTH ORDER OF SAILING ON THE SAME TACK, THE CENTER SQUADRON FORMING TO LEEWARD, AND THE REAR FORMING THE CENTER COLUMN.

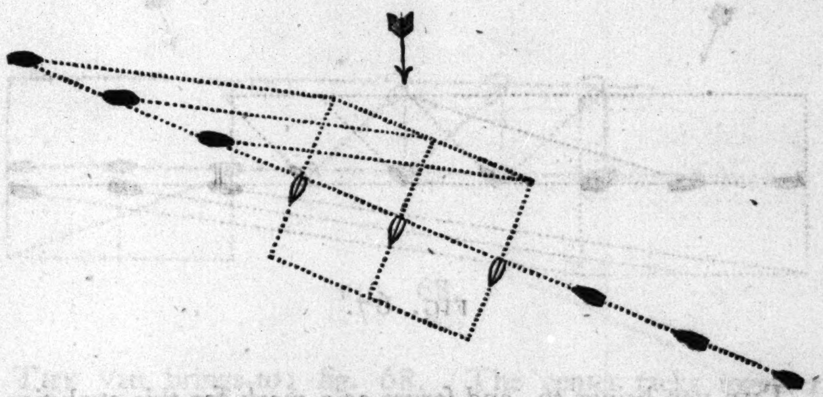


FIG. 66.

THE van tacks together, fig. 66, and goes away two points free, to gain the diſtance of the center. The center bears away eight points under an eaſy ſail. When the van is ſhip for ſhip with the center, and of courſe in its wake, the van re-tacks. The rear ſtands on to occupy the center ſtation; and, when the new lee column is ſhip to ſhip a-breaſt of the new center, it ſprings its luff.

TO CHANGE FROM THE LINE OF BATTLE TO THE FIFTH ORDER OF SAILING ON THE SAME TACK, THE CENTER FORMING THE WEATHER COLUMN, AND THE VAN SQUADRON BECOMING THE CENTER.

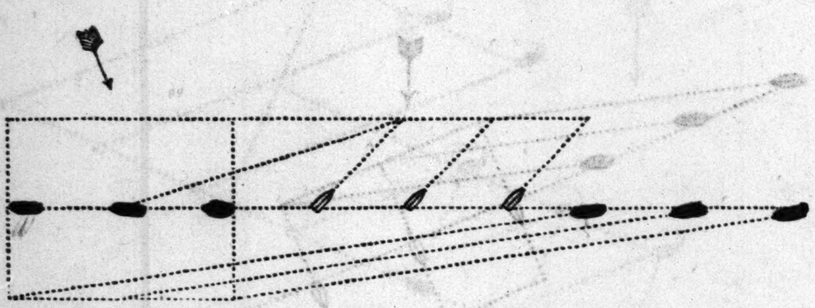


FIG. 67.

The van brings-to, and ſerves as a mark for this evolution; fig. 67. The center tacks together, and carries ſail cloſe-hauled, until the leader has the center ſhip of the van diviſion, which is brought-to, at right angles with the wind. He and his diviſion then re-tack together; and they will find themſelves rather farther to windward than neceſſary, but this is in their favour. In the mean time the rear ſquadron goes under an eaſy ſail, one point free, in order to range up with the column which has brought-to during this evolution: and, when the two columns in motion are drawn up a-breaſt and on each ſide of the column, now the center, that column fills, and they regulate their diſtances.

TO CHANGE FROM THE LINE OF BATTLE TO THE FIFTH ORDER OF SAILING ON THE SAME TACK, THE VAN COLUMN PASSING TO LEEWARD.

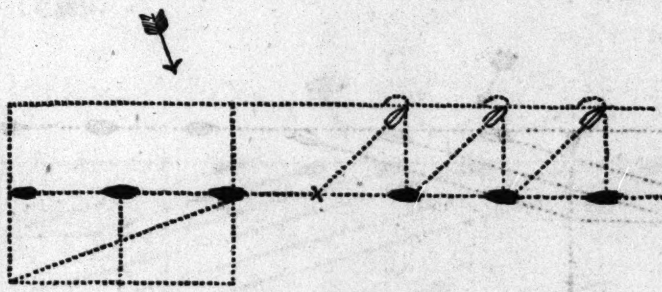


FIG. 68.

The van brings-to; fig. 68. The center tacks together and carries ſail cloſe-hauled, until it comes ſhip to ſhip a-breaſt of the rear, (which has from the beginning ſtood under an eaſy ſail,) and then the center re-tacks together. When the rear is near paſſing to windward of the van, brought-to from the firſt, the van fills and goes away under eaſy ſail for a ſmall time at right angles from the line; it hauls up, when its leader and the ſternmoſt ſhip of the center column bear in a line perpendicular to the wind.

TO

TO CHANGE FROM THE LINE OF BATTLE TO THE FIFTH ORDER OF SAILING ON THE SAME TACK, THE VAN FORMING THE LEE COLUMN, AND THE REAR THE WEATHER COLUMN.

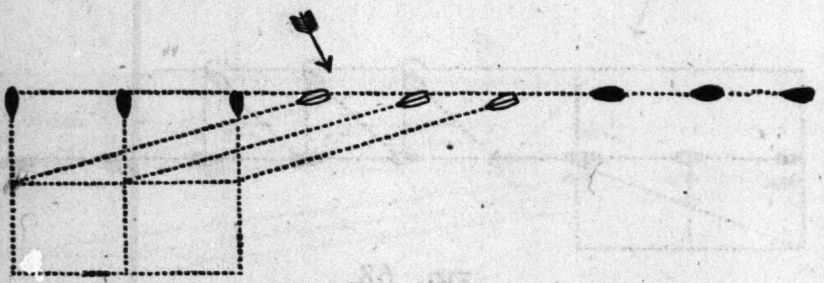


FIG. 69.

The van bears away together under an eaſy ſail, and goes away at right angles with the line a-head; fig. 69. The center at the ſame time goes away two points free, and each ſhip ſteers for that ſhip of the van, reſpectively, which is to be abreaſt of her when in column. The leader of the van muſt determine the diſtance, by not hauling up with his diviſion until his ſhip and the ſternmoſt ſhip of the center column (which is drawn up with him) are in a line at right angles with the wind. They both then ſtand on under an eaſy ſail; while the rear, crowding ſail, paſſes to windward of both.

TO CHANGE FROM THE LINE OF BATTLE TO THE FIFTH ORDER OF SAILING ON THE SAME TACK, THE REAR FORMING THE WEATHER COLUMN, THE VAN THE CENTER, AND THE CENTER FORMING THE LEE COLUMN.

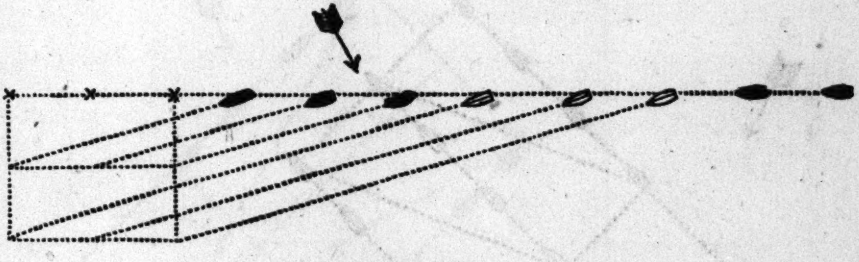


FIG. 70.

The van brings-to, or goes under an eaſy ſail; fig. 70. The center goes off together two points free, to paſs to leeward of the van and get a-breaſt of it. When a-breaſt of the van, that goes away alſo two points free with the center. The rear preſſing ſail, and not altering its courſe, paſſes to windward of the other columns, which ſpring their luffs when they are a-breaſt of the new weather column.

TO CHANGE FROM THE LINE OF BATTLE TO THE FIFTH ORDER OF SAILING ON THE OTHER TACK, WITHOUT CHANGING THE DISPOSITION OF THE SQUADRONS.

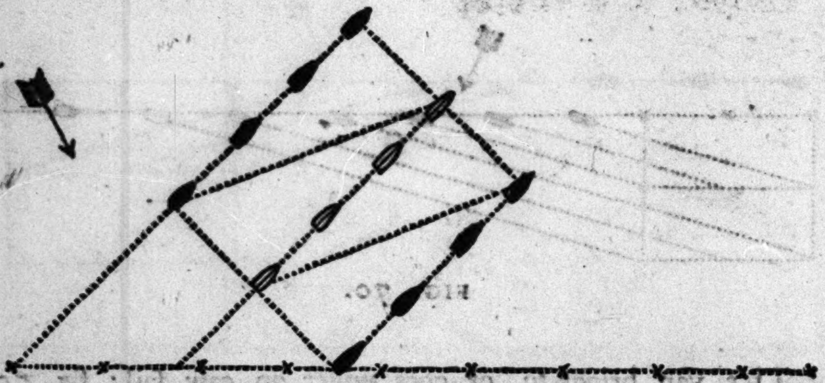


FIG. 71.

The van tacks in ſucceſſion; fig. 71. The leader of the center tacks when the leader of the van is paſſing by him exactly to windward, and his diviſion follows him. The rear manœuvres in the ſame way, with reſpect to the center.

TO CHANGE FROM THE LINE OF BATTLE TO THE FIFTH ORDER OF SAILING ON THE OTHER TACK, THE CENTER SQUADRON FORMING THE LEE COLUMN, AND THE REAR THE CENTER.

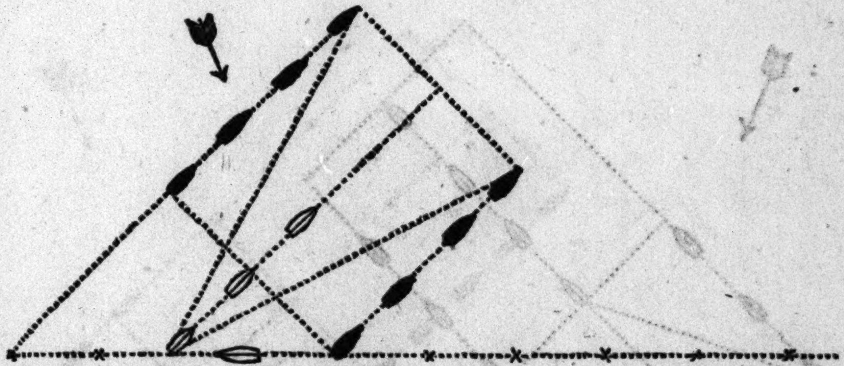


FIG. 72.

THE van and center tack at the ſame time in ſucceſſion, the van carrying ſail, to get up and range with the center; fig. 72. When the ſternmoſt ſhip of the center has tacked, that column brings-to, or carries a very eaſy ſail. The rear, having ſtood on, tacks in ſucceſſion at that point of the line; when the leaders of the new van and lee columns bear, from the rear leader, an equal number of points to windward and to leeward. He is then followed by his diviſion; and, when he has got a-breaſt of the two leading ſhips of the van and lee columns, the evolution is compleated.

TO CHANGE FROM THE LINE OF BATTLE TO THE FIFTH ORDER OF SAILING ON THE OTHER TACK, THE CENTER SQUADRON FORMING TO WINDWARD, AND THE VAN IN THE CENTER.

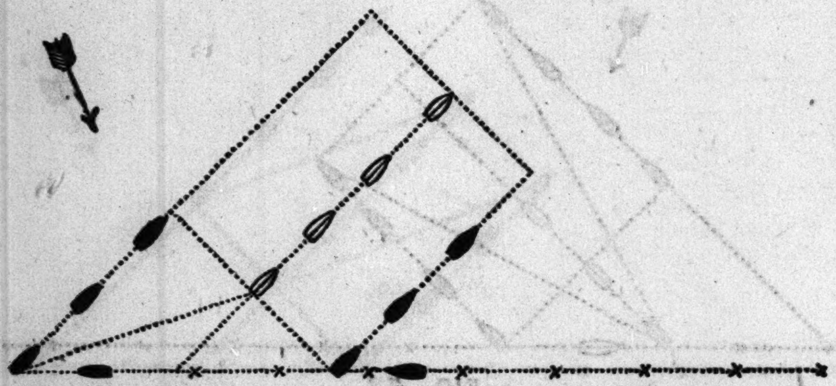


FIG. 73.

The van tacks in ſucceſſion; fig. 73; and, when about, keeps juſt on ſteerage way. The center carries ſail, and tacks, either when the center ſhip of the diviſion has paſſed the ſternmoſt of the van which tacked before it, or when the leader of the new weather column has the ſternmoſt ſhip of the new center column in a line at right angles with the wind. When he is about, his diviſion follows, carrying ſail to gain the diſtance a-breaſt of the new center. The rear tacks in ſucceſſion, when the firſt ſhip of the diviſion is a-breaſt of the ſternmoſt ſhip of the center: it then adapts its ſail to the other columns.

TO CHANGE FROM THE LINE OF BATTLE TO THE FIFTH ORDER OF SAILING ON THE OTHER TACK, THE VAN SQUADRON FORMING TO LEEWARD, THE CENTER TO WINDWARD, AND THE REAR IN THE CENTER.

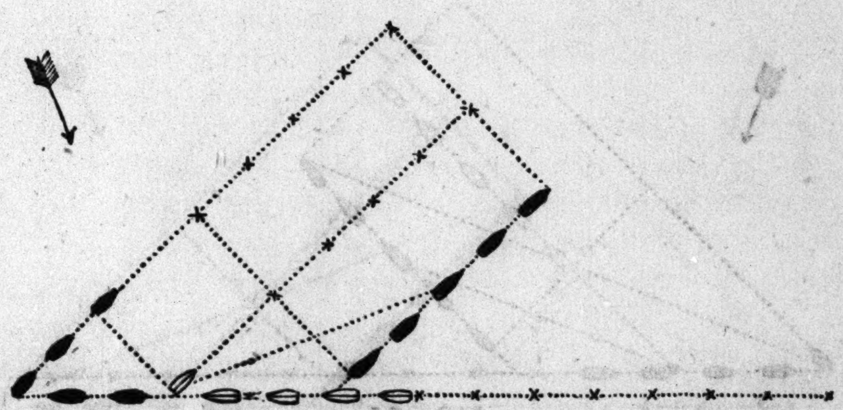


FIG. 74.

THE van makes ſail, and tacks in ſucceſſion; fig. 74; when about, the column brings-to or carries a very eaſy ſail. The leader of the center column, which is now to form to windward, tacks as ſoon as the laſt of his column paſſes a-ſtern of the new lee column, and is followed in ſucceſſion by his diviſion. The leader of the rear, which is to form the center column, tacks, either when a-breaſt of the leader of the windward column, *or* when his center ſhip paſſes a-ſtern of the lee column, *or* when he has the center ſhip of the lee column in a line at right angles with the wind. When the rear has tacked, the lee column fills; and all the columns make proper ſail for regulating the order.

TO CHANGE FROM THE LINE OF BATTLE TO THE FIFTH ORDER OF SAILING ON THE OTHER TACK, THE VAN SQUADRON FORMING TO LEEWARD, AND THE REAR TO WINDWARD.

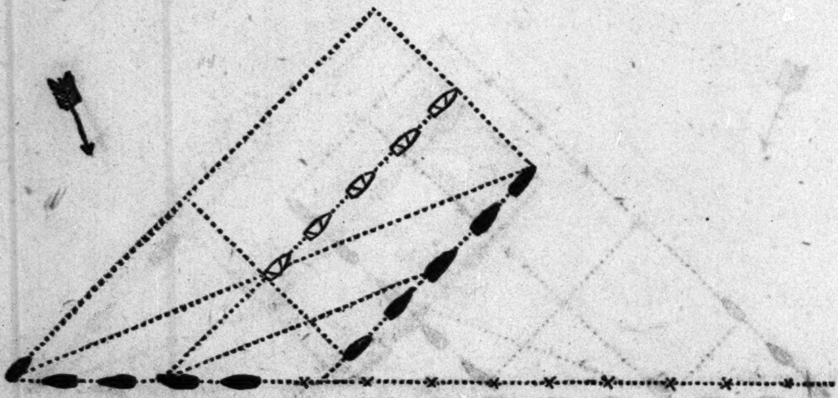


FIG. 75.

The van tacks in ſucceſſion, carrying ſail; fig. 75; and, when the column is about, it muſt bring-to or ſhorten ſail, to allow the other columns time to form. The center and rear then carry ſail, and tack in ſucceſſion. The center tacks, when its leader has the center of the lee column in a line at right angles with the wind, *or* when its center paſſes a-ſtern of the lee column. When the center is about, it regulates itſelf by the lee column either by bringing-to or making equal ſail; and thus both wait for the rear to paſs to windward. The rear tacks, when its leader has the firſt ſhip of the lee column in a line at right angles with the wind, *or* when its center ſhip paſſes a-ſtern of the laſt ſhip of the center column.

TO CHANGE FROM THE LINE OF BATTLE TO THE FIFTH ORDER OF SAILING ON THE OTHER TACK, THE REAR SQUADRON FORMING TO WINDWARD, THE VAN SQUADRON AS CENTER COLUMN, AND THE CENTER SQUADRON TO LEEWARD.

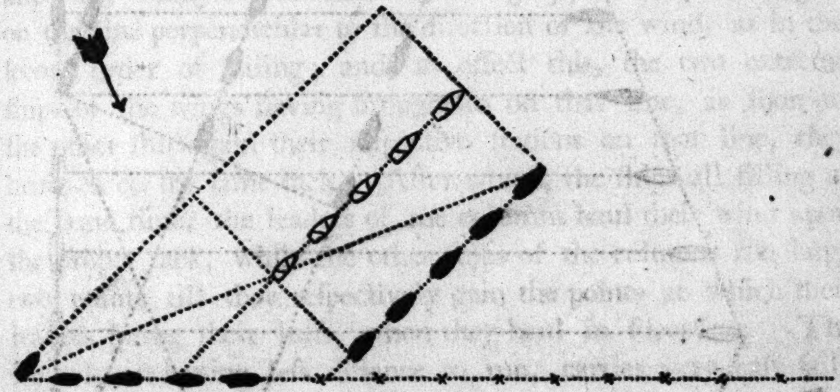


FIG. 76.

The van and center tack in ſucceſſion, fig. 76, and bring-to or go under eaſy ſail. The rear, which is to be to windward, carries ſail; and tacks in ſucceſſion when its leader has the headmoſt ſhip of the lee column in a line at right angles with the wind, *or* when its center ſhip paſſes a-ſtern of the center column. The columns then make proper ſail to regulate their diſtances.

TO CHANGE FROM THE LINE OF BATTLE TO THE ORDER OF RETREAT.

The leader bears away four points, and is followed in ſucceſſion by one half of the line to the center included. When the center has bore away, the order of retreat is formed.

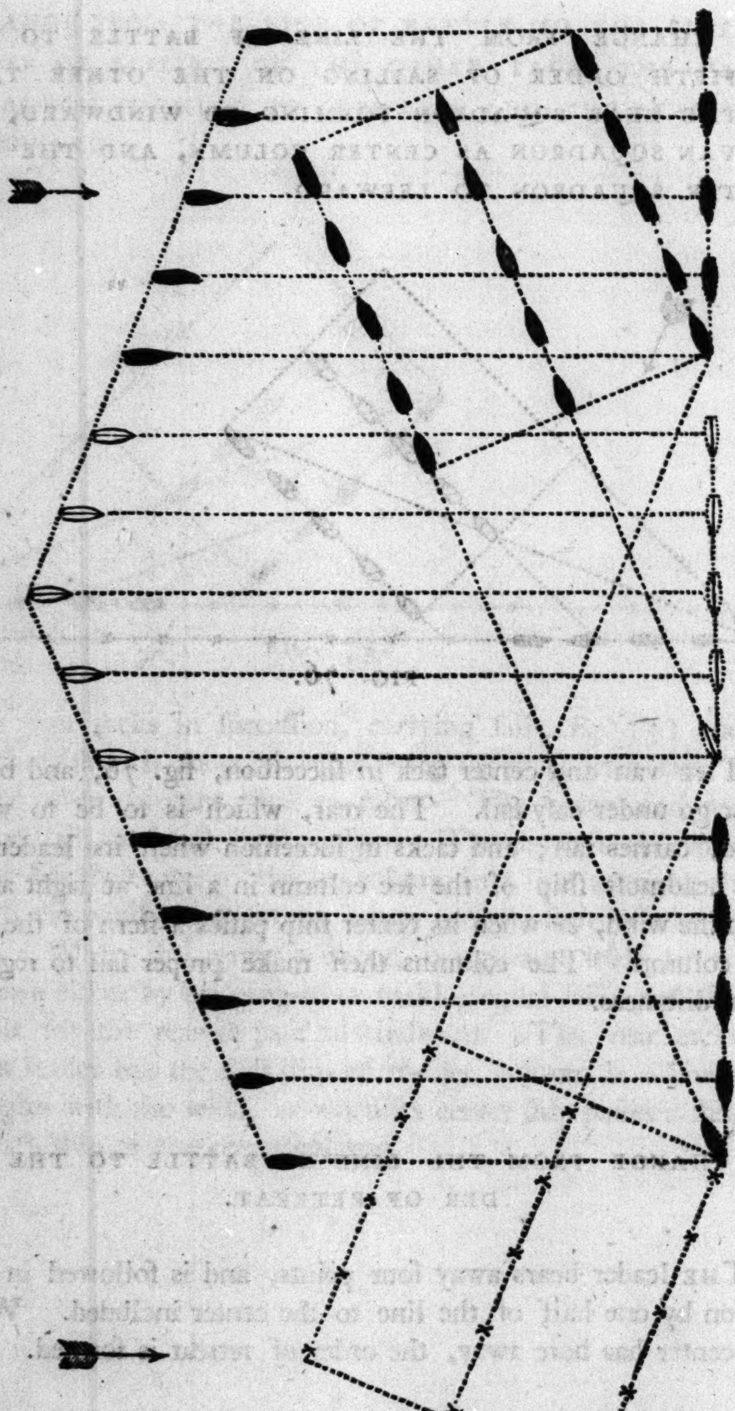


FIG. 77.

TO CHANGE FROM THE ORDER OF RETREAT TO THE FIFTH ORDER OF SAILING.

THE moſt ſimple method is to paſs to the line a-head, and thence to form the columns. But, if the fleet be ſomewhat diſperſed, it may be performed thus: fig. 77. It muſt bring-to on the line perpendicular to the direction of the wind, as in the ſecond order of ſailing; and, to effect this, the two extreme ſhips of the wings having brought-to on that line, as ſoon as the other ſhips gain their reſpective ſtations on that line, they bring-to on the ſame tack. After which, the ſhips all filling at the ſame time, the leaders of the columns haul their wind upon the proper tack, while the other ſhips of the columns run large two points till they reſpectively gain the points at which their leaders ſpring their luffs, when they haul in ſucceſſion. The lee column having leſs diſtance to run, carries very eaſy ſail; the center and weather columns increaſe theirs, in proportion to their diſtances. According to the tack which the fleet is to take, in the order of ſailing, the van ſquadron will be either to windward or to leeward.

TO CHANGE FROM THE ORDER OF RETREAT TO THE LINE OF BATTLE.

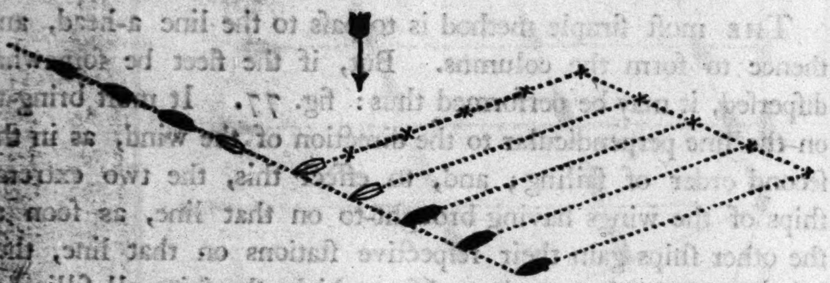


FIG. 78.

The leader of the wing which is to form the head of the line hauls the wind; fig. 78; and that wing follows in ſucceſſion, ſteering in each other's wakes. The other wing goes four points from the wind together, on the ſame tack, and thus runs parallel to the wing which firſt began the evolution. They haul up together when they arrive in the wake of the line.

If the fleet which retreats is attacked only on one wing, the wing attacked is to heave to the wind ſix points, on the ſame ſide as the enemy; and the van ſhip is at the ſame time to haul cloſe by the wind on the ſame tack; while the ſhips of the other wing ſhall come all together to the wind on their line, in order to veer in ſucceſſion at the angular point, in the wake of the wing attacked.

TO CHANGE AND REFORM UPON SHIFTS OF WIND.

TO CHANGE FROM THE FIFTH ORDER OF SAILING TO THE LINE OF BATTLE, WHEN THE WIND SHIFTS FORWARD.

If the wind comes forward but inconsiderably, the change may be made in the third mode recommended under the head of "*To change from the fifth order to the line of battle* "*on the ſame tack, the weather column forming the van, and the* "*lee column the rear.*"

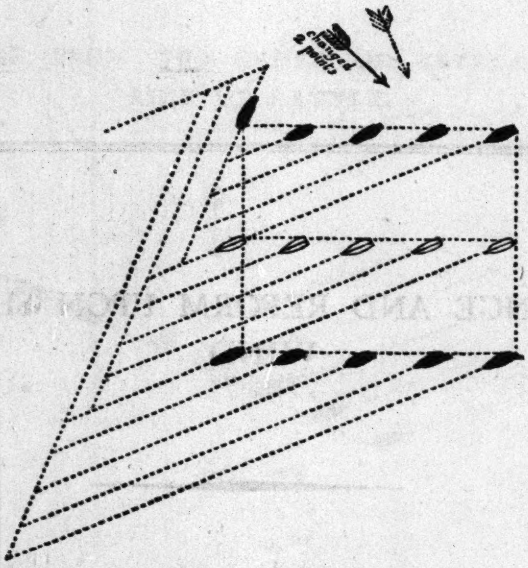


FIG. 79.

But, if the wind should change two or three points, fig. 79, the leader of the column to windward goes about and keeps under an eaſy ſail, and the reſt of his column carrying ſail, but keeping on the ſame tack, go away together in bow-and-quarter line, to gain their leader's wake, where they tack in ſucceſſion. The center leader will tack ſomewhat to windward of the wake of the weather column, in order to tack clear of it. The leader of the lee column acts in the ſame manner with regard to the center column; and, as the two laſt columns will naturally be to windward of the van, they edge away and form a-ſtern of it. If it be intended to continue the firſt tack, the leader of the weather column muſt re-tack ſoon after his firſt tack, and be followed by the line.

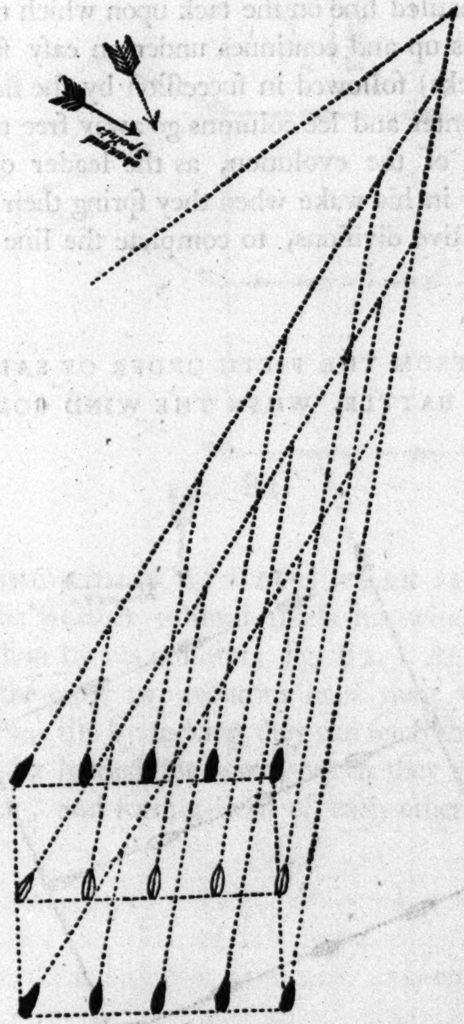


FIG. 80.

IF THE WIND COMES FORWARD THREE POINTS OR MORE, as the fleet would run too far to leeward by manœuvering as in the preceding evolution, the whole may go about together, fig. 80; and the leader of the weather column (the ſhip which is to lead the line) goes away two points free, carrying ſail to gain a-head of his diviſion, while the ſhips of his diviſion keep their wind under an eaſy ſail, to get ſucceſſively into the wake of their leader; when they make ſail and follow him. The van leader continues his courſe large, until he brings the leewardmoſt ſhip of the fleet to bear from him, in the direction of the cloſe-hauled line on the tack upon which they are moving, when he hauls up and continues under an eaſy ſail, (or, if neceſſary, re-tacks) followed in ſucceſſion by the fleet. The leaders of the center and lee columns go away free two points from the beginning of the evolution, as the leader of the van did; and they form in his wake when they ſpring their luffs, followed by their reſpective diviſions, to complete the line of battle.

TO CHANGE FROM THE FIFTH ORDER OF SAILING TO THE LINE OF BATTLE, WHEN THE WIND COMES AFT.

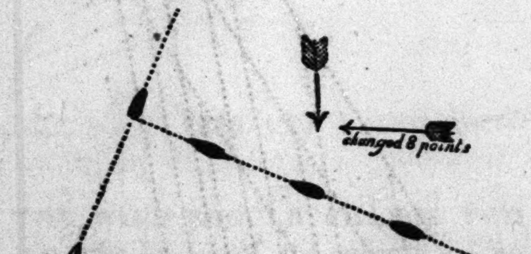


FIG. 81.

SHOULD THE WIND COME AFT EIGHT POINTS EXACTLY, the columns, when hauled up after their leaders, will find themſelves *in line;* fig. 81; but, as this would cloſe the line too much, the weather column muſt preſs ſail after their leader; the center ſhould move on under leſs ſail; and the lee column merely keep ſteerage way; to give room for the diviſions to form a-ſtern of each other at the proper diſtances.

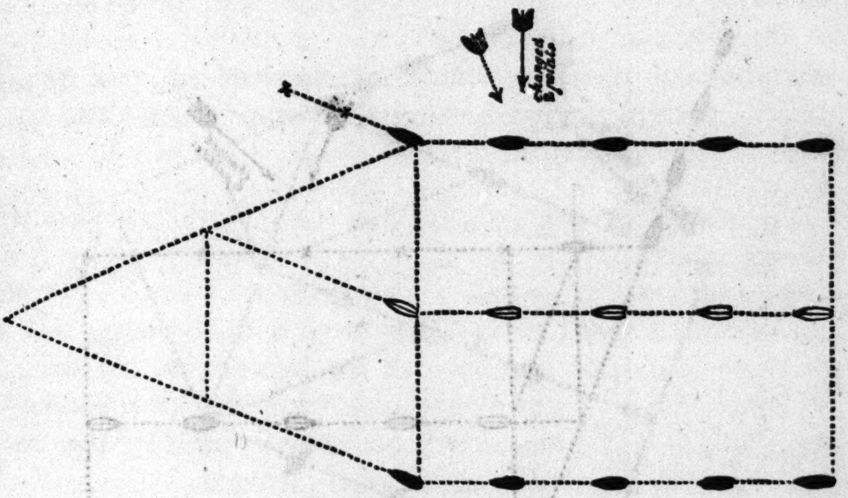


FIG. 82.

IF THE WIND COMES AFT LESS THAN EIGHT POINTS, the leader of the weather column hauls his wind, and is followed in ſucceſſion by his column; fig. 82. At the ſame time the leaders of the other two columns haul their wind and preſs ſail; ſtanding on, till by tacking they can fetch the point, where the weather leader hauled his wind, when they reſpectively retack in ſucceſſion, and form a-ſtern of each other.

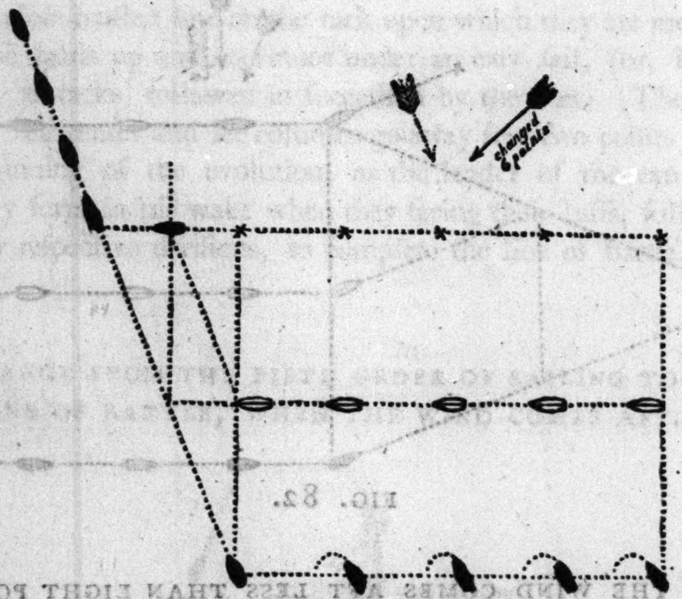


FIG. 83.

But, if the line is to be formed a-head of the lee-column, (which is ſometimes particularly convenient for cloſing the order when too open, provided no inconvenience or danger is expected from the falling ſo far to leeward) the center and lee columns bring-to; fig. 83. Then the weather leader bears away two, four, ſix, or even eight points, and runs down to leeward, till he brings the van ſhip of the lee column to bear from him in the direction of the cloſe-hauled line, when he ſprings his luff: the ſhips of his diviſion follow in ſucceſſion. When the rear of the weather column has paſſed in the direction of the cloſe-hauled line a-head of the van ſhip of the center, the center column fills, bears away, and, manœuvering as the van column did, forms a-ſtern of it. The lee column fills when the laſt ſhip of the center has paſſed.

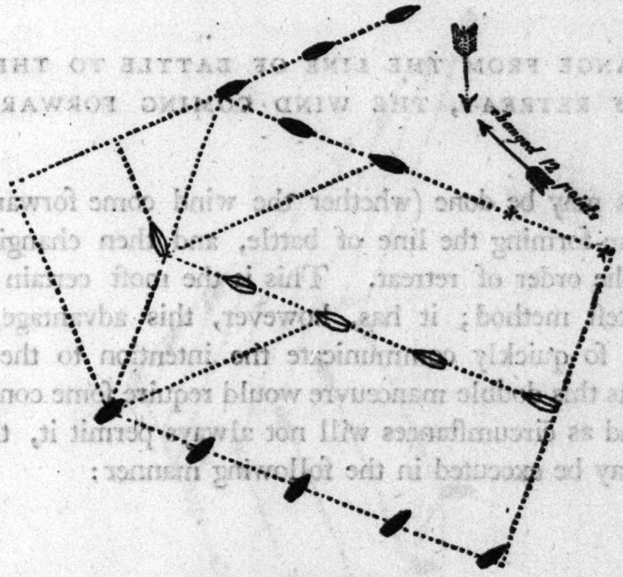


FIG. 84.

IF THE WIND COME AFT MORE THAN EIGHT POINTS, the line may be formed, preſerving the regular order of the columns, thus; fig. 85. The center and lee columns bring-to. The leader of the weather column hauls his wind, and his diviſion bear down, and form ſucceſſively in his and each other's wake. The leader of the center fills, when the laſt ſhip of the weather column bears from him, on the point upon which they will ſail when cloſe-hauled: he then, making proper ſail, may go down at right angles with that bearing, and haul up when he gets into the wake of the van diviſion; his ſhips follow him. The lee column manœuvres with regard to the center, in the ſame manner as the center did with regard to the van.

TO CHANGE FROM THE LINE OF BATTLE TO THE ORDER OF RETREAT, THE WIND COMING FORWARD.

This may be done (whether the wind come forward or aft) by firſt re-forming the line of battle, and then changing from that to the order of retreat. This is the moſt certain but not the ſhorteſt method; it has, however, this advantage, that it does not ſo quickly communicate the intention to the enemy.

But, as this double manœuvre would require ſome conſiderable time, and as circumſtances will not always permit it, this evolution may be executed in the following manner:

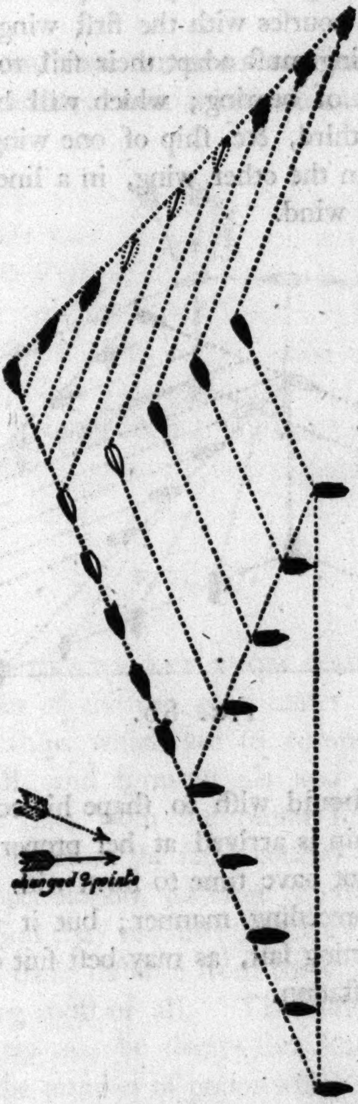


FIG. 85.

The fleet in line having fallen off, fig. 85, the leader of the van goes four points free, while the reſt of the ſhips ſtand on together cloſe-hauled, in order to gain the wake of the leader and each other reſpectively. When the center ſhip has arrived at the angular point, that is, in the wake of his ſecond a-head, that wing is formed. The other wing will be eaſily formed, if (the firſt wing continuing to ſail four points free) the ſhips of the other wing bear away four points free *together*, they running on parallel courſes with the firſt wing. The ſhips of the wing now forming muſt adapt their ſail to place themſelves on the proper line of bearing; which will be effected, when each firſt, ſecond, third, &c. ſhip of one wing bears, from the correſponding ſhip in the other wing, in a line perpendicular to the direction of the wind.

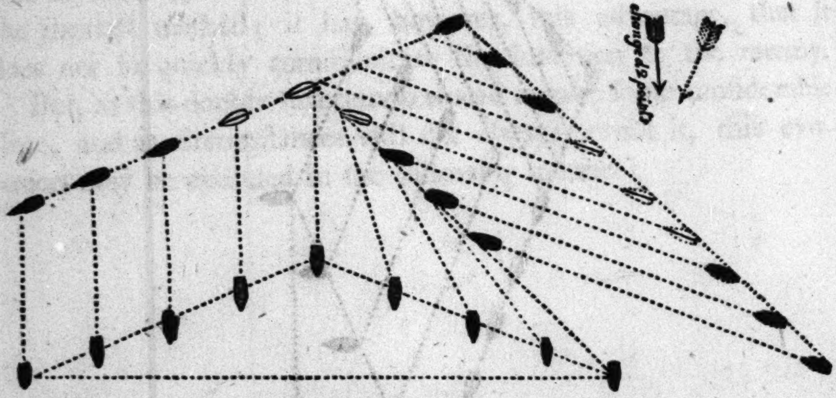


FIG. 86.

If the admiral ſhould wiſh to ſhape his courſe immediately when the angular ſhip is arrived at her proper ſtation, fig. 86, the rear wing will not have time to form with the regularity recommended in the preceding manner; but it muſt be effected by making or ſhortening ſail, as may beſt ſuit each ſhip in running for her proper ſtation.

TO CHANGE FROM THE LINE OF BATTLE TO THE ORDER OF RETREAT, THE WIND COMING AFT.

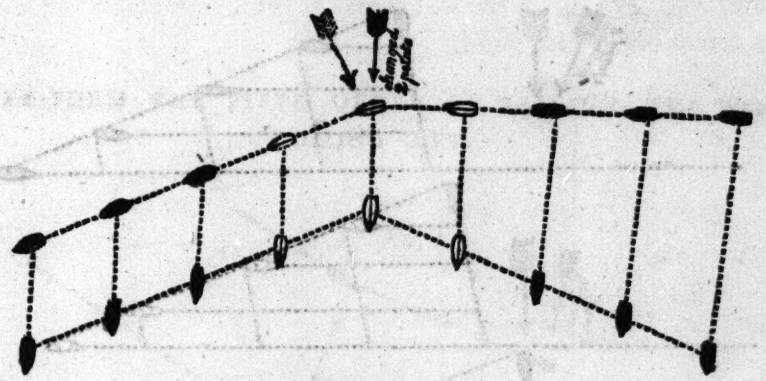


FIG. 87.

IF THE WIND DRAWS AFT FROM ONE TO FOUR POINTS, fig. 87, the leader of the van goes under very little ſail four points free: the ſhips which are to compoſe his wing follow, under ſimilar ſail, and form in his and each other's wakes. The reſt of the line, from the center ſhip to the ſternmoſt, (which have alſo ſtood on the ſame courſe) as ſoon as the center ſhip is in her proper ſtation, go large together as many points as the change of wind may require; and they obſerve to carry ſail, in proportion to their diſtance from the angular ſhip, the ſternmoſt ſhip carrying moſt of all. The number of points which they are to go large may be always thus known: ſubtract, from 8 points, half the number of points which the wind has ſhifted; ſo, if the wind has come aft 4 points, deduct 2 from 8, and the remainder, 6, is the number of points they are to go large.

IF THE WIND SHOULD COME AFT MORE THAN FOUR POINTS, this evolution may be expeditiouſly performed, by all the ſhips of the line bearing away before the wind, and ranging themſelves, in the ſecond order of ſailing, on the line perpendicular to the direction of the wind; from that the order of retreat may be afterwards formed.

TO RE-FORM THE FIFTH ORDER OF SAILING, THE WIND COMING FORWARD

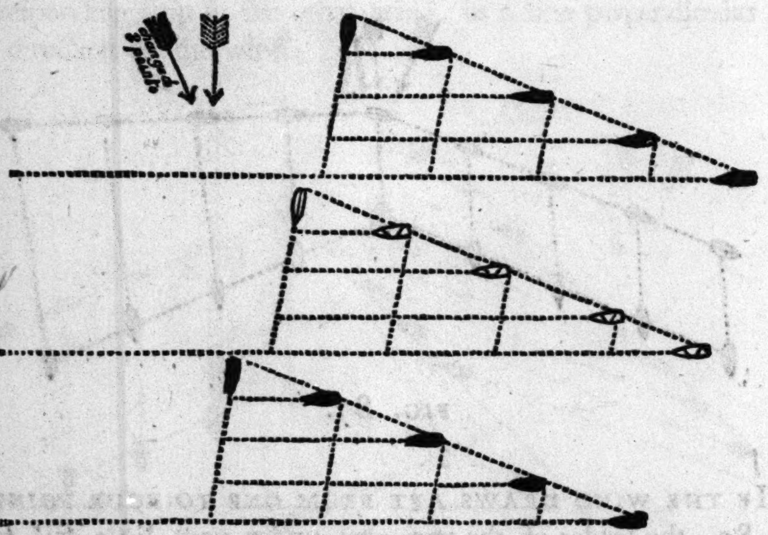


FIG. 88.

If the wind does not alter more than six points, and it is intended to keep on the ſame tack, each column, conſidered as a ſingle unconnected line, may manœuvre in the ſame way as in re-forming the line of battle; that is, fig. 88, the columns having brought to, the leader of each will bear away a certain number of points, according as the wind has changed; and this number may be known by deducting from eight half the number of points the wind has ſhifted: thus, if the wind has come forward two points, the leader runs ſeven points free, and continues ſo to do till he brings the ſternmoſt ſhip of his column to bear from him on the cloſe-hauled line. The other ſhips obſerve to fill and run large after the other, as their immediate ſeconds a-head come to bear from them reſpectively on the cloſe-hauled line. The ſhips of each column haul their wind when they are all ranged upon the cloſe-hauled line a-head of the ſternmoſt ſhip.

If the wind comes forward from six to twelve points, the order is re-formed by changing the tack, and by proceeding as if the wind had come a-head while on that tack. The weather column then becomes the lee column, and the lee column is conſequently to windward.

SHOULD THE WIND SHIFT MORE THAN TWELVE POINTS, the tack being changed, the wind may then be ſaid to come aft.

TO RE-FORM THE FIFTH ORDER OF SAILING, THE WIND COMING AFT.

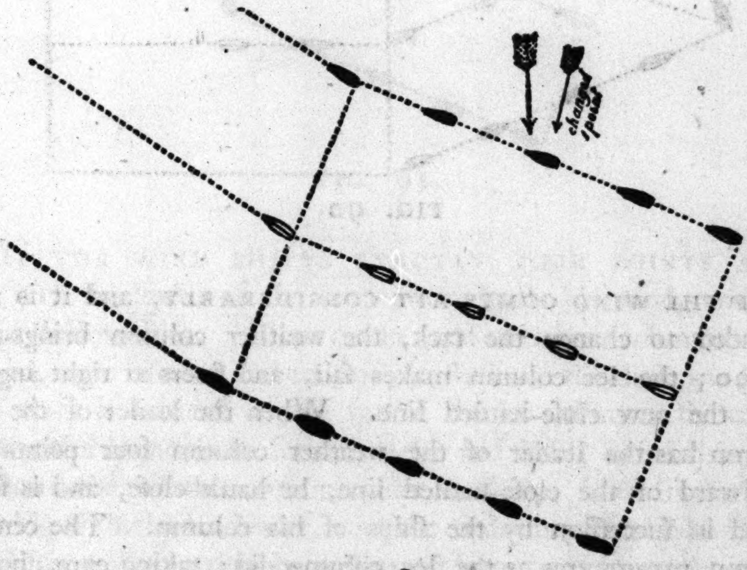


FIG. 89.

IF THE WIND COMES AFT BUT A LITTLE, fig. 89, and the admiral does not chooſe the fleet to run cloſe-hauled chequer-wiſe, but prefers the re-forming of the order, it is thus performed: the weather column ſhortens ſail, the center column may preſerve its headway, but the lee column muſt carry a preſs of ſail: the leader of the weather column hauls his wind; and the leaders of the center and lee columns, preſerving their diſtances, imperceptibly gather to the wind, by keeping a-breaſt of the leader of the weather column. The ſhips of each column, having equal headway with their reſpective leaders, will then get ſucceſſively into their reſpective wakes. When the order is thus recovered, the diſtances muſt be corrected.

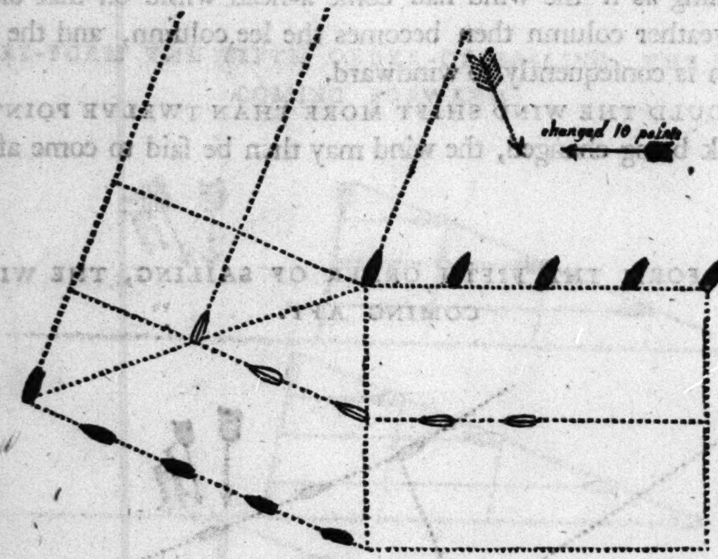


FIG. 90.

If the wind comes aft considerably, and it is not intended to change the tack, the weather column brings-to; fig. 90; the lee column makes ſail, and ſteers at right angles with the new cloſe-hauled line. When the leader of the lee column has the leader of the weather column four points to windward of the cloſe-hauled line, he hauls cloſe, and is followed in ſucceſſion by the ſhips of his column. The center column manœuvres as the lee column did; taking care, however, to go under very eaſy ſail, ſo as not to reach the point where it is to haul cloſe, before the lee leader has done ſo: the center muſt then continue under very eaſy ſail, or may bring-to, if neceſſary, to wait till the lee column is a-breaſt of it. When the leader of the center and lee columns are got a-breaſt of the weather column, brought to, that column fills; its leader keeps his wind; and his other ſhips, running large, bear down in each other's waters, and form.

By this evolution, which is ſhort and devoid of confuſion, the fleet will fall very little to leeward; and the ſhips may with great eaſe regain their proper ſtations.

If

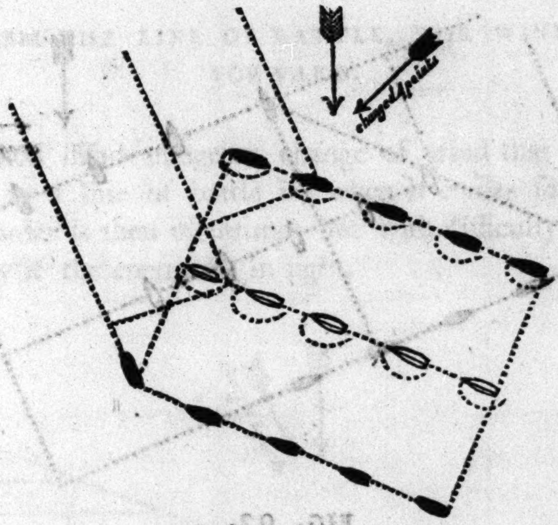


FIG. 91.

If the wind shifts exactly four points aft, fig. 91, the leader of the lee column hauls his wind, and his ſhips follow him. The center and weather columns veer round, rear to van, and continue to ſteer ſo, till their van (now the rear) is a-breaſt of the van of the lee column; the center then veers round to its former tack, and hauls its wind in ſucceſſion: the weather column does the ſame, when in the ſame bearing with the lee leader, and the order is re-formed.

This evolution may be performed in a more immediate way, by the center and weather columns bringing to, inſtead of veering round; but as, in this latter mode, the columns will be too cloſe, the intervals muſt be opened by ſteerage, the lee columns bearing away. Unleſs the wind ſhifts *exactly* four points aft, the firſt mode will not be practicable; but the latter will.

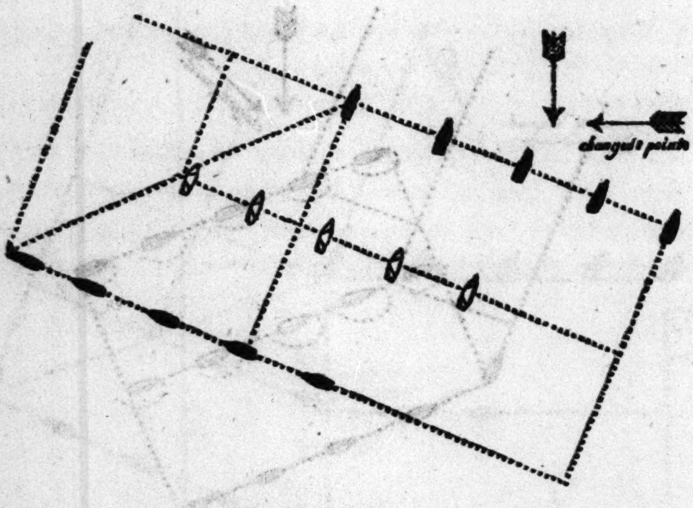


FIG. 92.

IF THE WIND SHIFTS EXACTLY EIGHT POINTS AFT, fig. 92, the weather column brings-to; the other columns keep on their courſe (which is now quartering); and, when the leader of the center column finds he is two points to leeward of the weather leader, he and his column bring alſo to the wind, and lie-to. The lee column acts in the ſame manner; but, when the lee leader has brought the leaders of the weather and center columns in a line with him, (or two points to windward of him,) he hauls his wind, and ſtands on, followed by his column; the other columns fill, ſtand on, and form, as the lee column draws up with them.

TO RE-FORM THE LINE OF BATTLE, THE WIND COMING FORWARD.

The moſt diſadvantageous change of wind that can happen to a fleet in a line of battle is, when it comes forward; becauſe the order is then oftentimes but with difficulty re-formed, particularly if the enemy be in ſight.

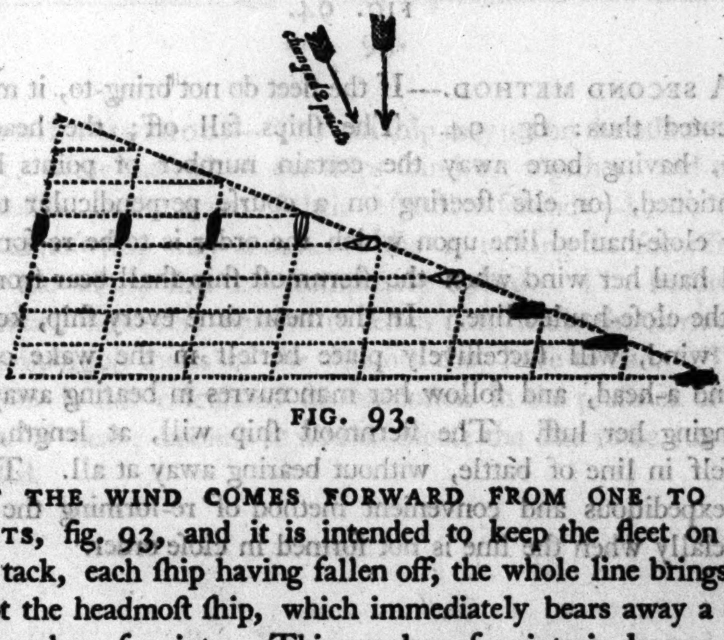


FIG. 93.

If the wind comes forward from one to six points, fig. 93, and it is intended to keep the fleet on the ſame tack, each ſhip having fallen off, the whole line brings-to, except the headmoſt ſhip, which immediately bears away a certain number of points. This number of points is known, by deducting from 8 (being one fourth of the compaſs) one half of the points which the wind has changed: thus, if the wind has come forward 4 points, deduct 2 from 8, and 6 points will remain, as the number which the ſhips are to run large. The headmoſt ſhip then, having fallen off, and bore away, the ſhip which follows her fills and bears away, as ſoon as ſhe brings her leader to bear on the cloſe-hauled line; all the ſhips of the line proceed ſucceſſively in the ſame manner; and, at length, they altogether haul their wind in the wake of their leader, when they get upon the cloſe-hauled line with the ſternmoſt ſhip, which then fills and ſtands on cloſe-hauled, not being under the neceſſity of bearing away.

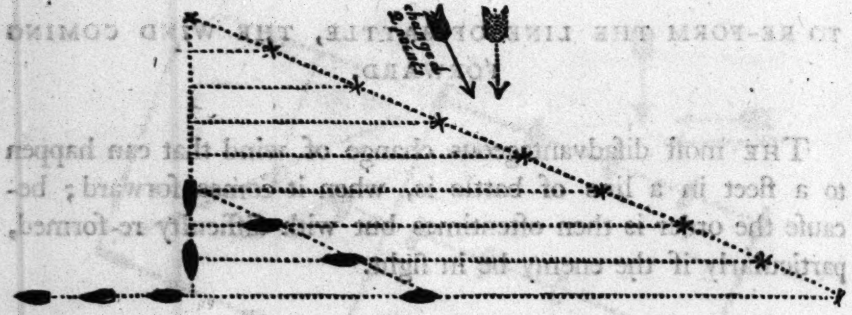


FIG. 94.

A SECOND METHOD.---If the fleet do not bring-to, it may be executed thus: fig. 94. The ſhips fall off; the headmoſt ſhip, having bore away the certain number of points before mentioned, (or elſe ſteering on a courſe perpendicular to the new cloſe-hauled line upon which the order is to be re-formed,) will haul her wind when the ſternmoſt ſhip ſhall bear from her on the cloſe-hauled line. In the mean time every ſhip, keeping her wind, will ſucceſſively place herſelf in the wake of her ſecond a-head, and follow her manœuvres in bearing away and ſpringing her luff. The ſternmoſt ſhip will, at length, find herſelf in line of battle, without bearing away at all. This is an expeditious and convenient method of re-forming the line, eſpecially when the line is not formed in cloſe order.

A THIRD

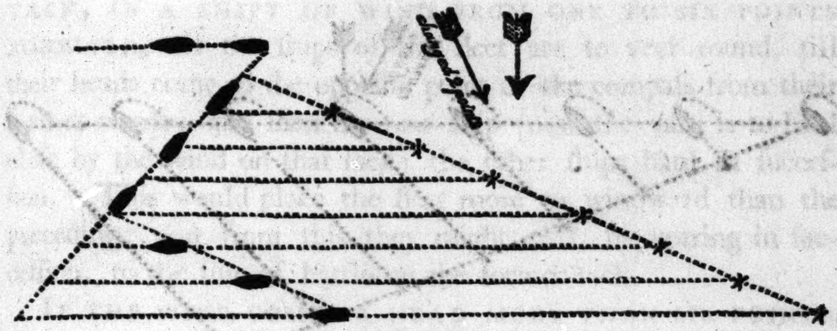


FIG. 95.

A THIRD METHOD.—The van ſhip may get on the other tack, fig. 95, while the reſt of the ſhips ſtand on together, and tack in ſucceſſion in the wake of their reſpective ſeconds a-head; and the headmoſt ſhip may commence the re-tacking in ſucceſſion, before the whole line has completely tacked. The headmoſt ſhips muſt, however, obſerve to leſſen ſail, while the ſternmoſt muſt proportion theirs to the diſtance they have to run. This evolution is not calculated for execution in the preſence of an enemy, if near; becauſe it would expoſe the line to be cut and traverſed.

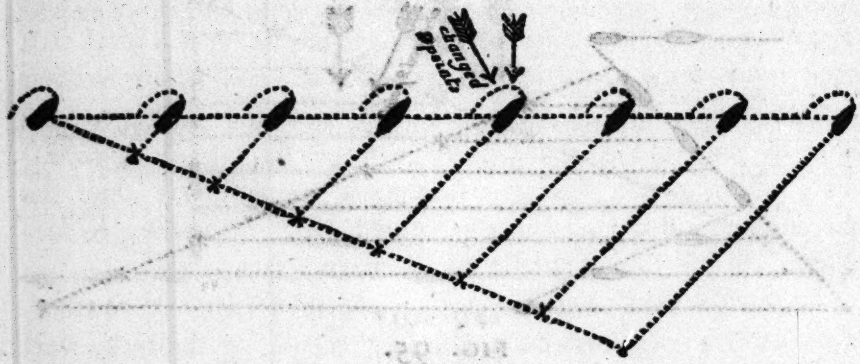


FIG. 96.

A **FOURTH METHOD**, fig. 96.—The whole line tack together, and go in bow-and-quarter line; the rear ſhips obſerving to preſs ſail, and the headmoſt ſhips leſſening theirs, till the fleet is on the cloſe-hauled line of bearing for the other tack, when they re-tack together. The order will probably be too open, and therefore attention muſt be paid to the diſtances, after the fleet have re-tacked.

A **FIFTH METHOD.**—All the fleet are to veer round at the ſame time, having their heads towards the exact oppoſite point of the compaſs from their former courſe. Then the rear ſhip, which is now become the van, is to veer and haul cloſe by the wind on the ſame tack as ſhe did before, the reſt of the ſhips performing the ſame manœuvre in ſucceſſion. This evolution ſoon re-forms the line, but it inverts the van and rear: it may, however, be performed in urgent circumſtances, ſuch as to get a-breaſt of an enemy who wiſhes to avoid an engagement, to double a cape in plying to windward, or to avoid ſome danger.

IF THE WIND COMES EXACTLY FOUR POINTS A-HEAD, the whole fleet is to veer round till the heads of all the ſhips come upon the other tack to the point exactly oppoſite to their former courſe; and the rear ſhip (now become the van) is to run four points large upon that tack, the reſt of the fleet follow in ſucceſſion; and, when the laſt ſhip (the former van) is got in the wake of the headmoſt in the line, all the fleet is to veer together, and the order will be re-formed on the former tack.

To RE-FORM THE LINE OF BATTLE ON THE OTHER TACK, IN A SHIFT OF WIND FROM ONE TO SIX POINTS FORWARD, all the ſhips of the fleet are to veer round, till their heads come to the oppoſite point of the compaſs from their former courſe; and then the rear ſhip (now the van) is to haul cloſe by the wind on that tack: the other ſhips haul in ſucceſſion. This would place the fleet more to windward than the preceding; and from this they might paſs, by veering in ſucceſſion, to the line of battle on the former tack.

IF THE WIND COMES A-HEAD MORE THAN SIX POINTS, AND LESS THAN TWELVE, the fleet, changing the tack, will manœuvre in the ſame way as if it had come a-head not more than ſix points. In this ſituation, if two fleets are in ſight, the advantage of the weather gage will be gained by the fleet that was before to leeward. But,

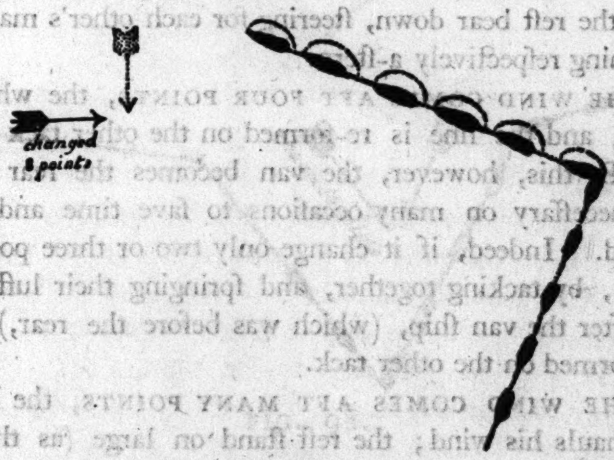


FIG. 97.

To RE-FORM THE ORDER OF BATTLE UPON THE SAME TACK, WHEN THE WIND SHIFTS EIGHT POINTS FORWARD, the ſhips are to veer round all together, till their heads are on the point of the compaſs oppoſite to their former courſe; fig. 97. Then the rear ſhip, having become the van, is to haul cloſe by the wind on the ſame board: all the other ſhips are to haul in ſucceſſion, and range in the wake of the leading ſhip.

IF THE WIND CHANGES A-HEAD TWELVE POINTS EXACTLY, the fleet need only change their tack, and the order is not diſturbed: but, if it were neceſſary to preſerve the tack, the fleet muſt veer round together, and haul their wind in ſucceſſion on the firſt tack.

Should the wind change more than twelve points, it cannot then be ſaid to come forward.

TO RE-FORM THE LINE OF BATTLE, THE WIND COMING AFT.

IF THE WIND HAS SHIFTED BUT A LITTLE, the leader hauls his wind, while the ſeconds go under an eaſy ſail, ſteering a little large for the main maſt of the preceding ſhip.

If it be intended to change the tack, the whole fleet tack together; and then the ſternmoſt, becoming the leader, hauls up, and the reſt bear down, ſteering for each other's main maſts, and forming reſpectively a-ſtern.

IF THE WIND COMES AFT FOUR POINTS, the whole tack together; and the line is re-formed on the other tack immediately. By this, however, the van becomes the rear; an expedient neceſſary on many occaſions to ſave time and keep to windward. Indeed, if it change only two or three points, the fleet may, by tacking together, and ſpringing their luffs in ſucceſſion after the van ſhip, (which was before the rear,) be readily re-formed on the other tack.

IF THE WIND COMES AFT MANY POINTS, the leader of the van hauls his wind; the reſt ſtand on large (as they muſt neceſſarily find themſelves upon the changing of the wind); and, as they arrive in the wake of their leaders, they ſeverally haul up. This evolution, which is very ſimple, is advantageous to a fleet having the lee gage, and wiſhing to engage with, or come nearer to, the enemy; it may even ſometimes gain the wind, by all the ſhips crowding ſail as they ſpring their luffs.

IF THE WIND CHANGES SIXTEEN POINTS, all the ſhips brace about for the other tack immediately; by which means the fleet will be ſailing four points large: then the ſhips tacking or veering inſtantly altogether, the order of battle will be re-formed on the ſame tack as they were before the ſhift of wind. This evolution is advantageous, both becauſe it is quickly executed,

cuted, and becauſe it keeps the fleet as much to windward as poſſible. But, if keeping to windward be not an object, the whole fleet ſhift the tack, brace about, and fill: the leading ſhip hauls cloſe, makes ſail, and the reſt follow in ſucceſſion.

TO RE-FORM THE ORDER OF RETREAT, THE WIND CHANGING.

IF THE WIND CHANGES BUT LITTLE, the order is eaſily recovered, if the ſhips of both wings keep reciprocally a-breaſt of each other on a line, perpendicular to the direction of the wind, and in line of bearing with the angular ſhip.

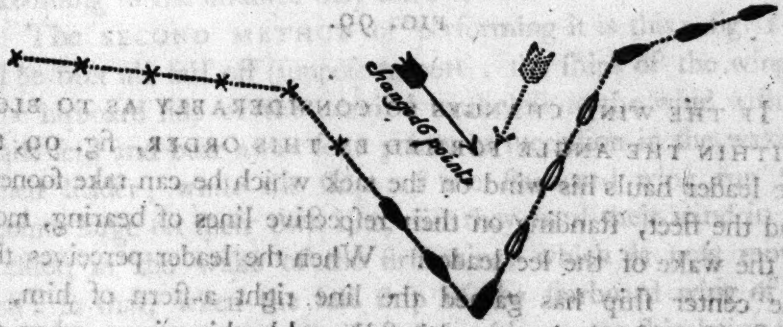


FIG. 98.

IF THE WIND CHANGES MUCH, BUT WITHOUT BLOWING WITHIN THE ANGLE FORMED BY THIS ORDER, fig. 98, the leader of the lee wing hauls his wind, (doubling his wing outwards,) and is followed in ſucceſſion by the ſhips of that wing. The ſhips of the weather wing ſtand altogether for the angular ſhip; and thus the ſhips of the weather wing, as they ſucceſſively arrive at the angular point, will bear away after the lee wing; and haul in ſucceſſion at the point where the lee wing began the evolution. When the leader obſerves that the center ſhip is right a-ſtern, he bears away four points, and is followed in ſucceſſion by his wing: and, when that center ſhip is arrived at the angular point of the preſent lines of bearing, the evolution is completed. This evolution, as well as the next, is performed merely by the whole following the leading ſhip; and the whole ſtopping on the arrival of the center ſhip at the angular point.

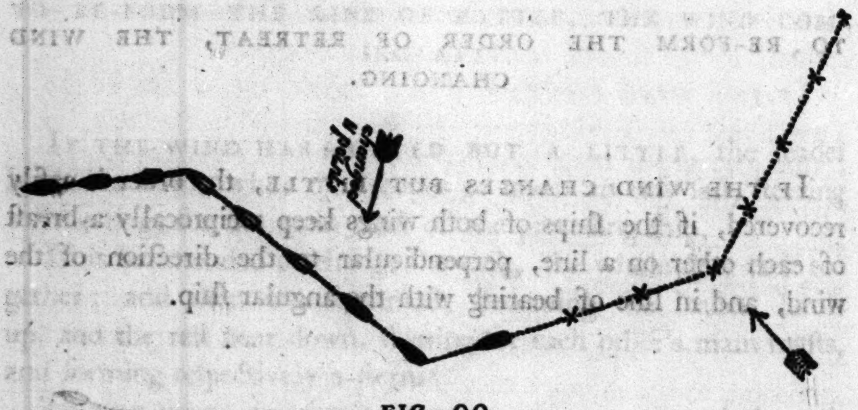


FIG. 99.

If the wind changes so considerably as to blow within the angle formed by this order, fig. 99, the lee leader hauls his wind on the tack which he can take ſooneſt; and the fleet, ſtanding on their reſpective lines of bearing, move in the wake of the lee leader. When the leader perceives that the center ſhip has gained the line right a-ſtern of him, he bears away four points, and is followed by his wing; when the center ſhip is arrived at the angular point of the preſent lines of bearing, the evolution is completed, and the proper courſe may be directly ſhaped.

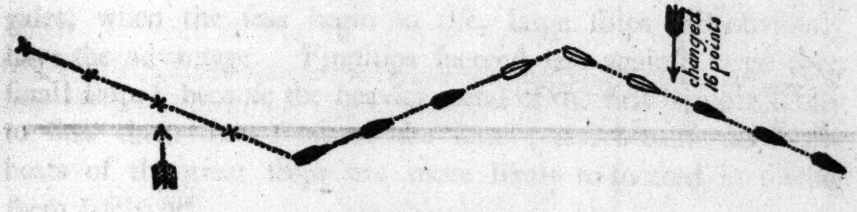


FIG. 100.

IF THE WIND CHANGES EXACTLY SIXTEEN POINTS, although the neceſſity of re-forming the order of retreat can ſcarcely occur, it may be done in either of the two following ways: firſt, the fleet veer round, head and ſtern; the admiral brings-to at the angular point, while the two wings run right before the wind, to bring-to ſucceſſively on their reſpective lines of bearing, and conſequently to leeward of the admiral: the ſhips near the extremities of the wings muſt carry more ſail, according to the diſtance they have to run.

The SECOND METHOD of performing it is this: fig. 100. The fleet all fall off (ſuppoſe to port); the ſhips of the wing on the larboard ſide of the admiral haul cloſe to the wind with all ſails ſet, and bear away four points in ſucceſſion in the wake of their leader; while the ſhips of the ſtarboard wing run four points large on their own line, till they haul their wind in ſucceſſion in the wake of the firſt wing, which is now moving off: ſo that, when the laſt ſhip of the ſtarboard wing of the former order ſhall have hauled cloſe, (the center ſhip being conſequently on the angular point of the preſent lines of bearing,) the evolution is compleated; but the ſtarboard wing is now become the larboard.

IN WHAT THE FORCE OF A FLEET CONSISTS.

THE principal ſtrength of a fleet conſiſts in good order and diſcipline. Thence reſult an exact obſervance of ſignals, and a prompt execution of manœuvres.

A line of battle is ſtrong in proportion to its cloſe order, provided a proper regard is paid to the leaving of ſufficient room for working the ſhips. If the ſhips of a line are not ſo cloſe as thoſe of the enemy, many of them muſt have to ſuſtain the fire of two ſhips: and of courſe a dangerous inferiority will thereby ariſe.

Many advantages reſult from large ſhips and heavy metal. Firſt, in caſe of boarding, large ſhips poſſeſs a manifeſt ſuperiority from their height, which facilitates to them the execution of this manœuvre, while it impedes the execution of it by a ſmaller ſhip upon a larger. Secondly, in heavy ſeas and bad weather, the large ſhips can more commodiouſly and with greater ſafety uſe their lower tier of guns than ſmall ſhips can: and, if the roughneſs of the weather ſhould compel both to keep their lower tier cloſe, ſtill the three-decked ſhip will have the advantage of two tiers to one, as it before had three to two. The ſame advantage they likewiſe have, in caſe of the upper deck being incumbered by ſhattered rigging, &c. in the uſe of their middle-deck guns. Large ſhips, too, have greater ſolidity, reſiſting better the attack, and living better in tempeſtuous weather. In general, large ſhips ſail better than ſmall, notwithſtanding the prejudice of opinion in favour of the latter; but ſuch preference ſhould be underſtood only in light airs of wind, and in the quickneſs of their movements; for, in ſtiff gales, when the ſeas begin to riſe, large ſhips will obviouſly have the advantage. Fireſhips ſucceed leſs againſt large than ſmall ſhips; becauſe the heavier metal of the firſt is more likely to ſink them than thoſe of the latter; and becauſe the larger boats of the great ſhips are more likely to ſucceed in towing them ſafely off.

A fleet that is compoſed of a greater number of large ſhips, though fewer in number, need not be ſo cloſely arranged as that of the enemy; for, though leſs numerous, it may yet be ſtronger. A fleet, whoſe line is not ſo cloſe, works, in ſome circumſtances, more eaſily than the cloſer fleet; and, if leſs numerous, its movements are quicker, the ſignals better obſerved, the order more exactly kept, and the whole leſs liable to ſeparation. As the ſmaller fleet is more eaſily worked, it follows, of courſe, that a ſhift of wind cannot diſorder or embarraſs it ſo much as a more numerous fleet: and it alſo follows, that it can work with greater eaſe and expedition to or from the enemy, may keep at a greater diſtance from or approach nigher to a ſhore, and with leſs hazard.

From theſe facts, therefore, we may conclude, that a fleet, compoſed of a greater number of capital ſhips, will be found to be of greater force than a more numerous fleet of ſmaller ſhips. Effective power does not conſiſt wholly in numbers; although a certain proportion of ſecond and third rate ſhips are highly neceſſary for a line of battle.

ADVANTAGES AND DISADVANTAGES OF FLEETS TO WINDWARD AND TO LEEWARD.

As fleets never engage but in oppoſite lines cloſe (or nearly ſo) to the wind, one of the lines muſt neceſſarily be to windward of the other. Each of theſe ſituations poſſeſſes advantages and diſadvantages; what are peculiar to either we ſhall here diſcuſs.

THE ADVANTAGES OF THE FLEET TO WINDWARD. The fleet which has the weather gage of the other, has the advantage of determining the time and diſtance of the action; they may board if they think proper, and follow the enemy cloſe whenever he gives way; they may eaſily traverſe the enemy's line, ſend fireſhips to their diſabled veſſels, and detachments to cut off the van or rear of the fleet to leeward; finally, they are never annoyed by the fire or ſmoak, as the wind carries it to the enemy.

THE DISADVANTAGES OF THE FLEET TO WINDWARD are an inability to quit the fight, when once engaged, without being obliged to paſs through the enemy's line, which is extremely dangerous; becauſe, being already very much injured ſince they are obliged to fly, they muſt expect to be ſtill more ſo; and, as they have no longer in their power to form the order of retreat, this manœuvre is abſolutely a deſperate one. If the fleet to windward tack all together in order to get off, the line to leeward may do the ſame, after having raked the weather ſhips in ſtays, and follow them on the other tack, with the advantage of having gained the wind of the center and rear diviſions of the flying line. If it blows freſh, it is ſeldom that weather ſhips have their lower deck guns ſufficiently elevated; whence it reſults that, the ſhip being a little inclined on her ſide, the guns often run out again at their ports, after being fired, which very much retards the ſervice of the artillery, ſince the guns are obliged to be bowſed in again every time for loading: and oftentimes they can make no uſe at all of their lower tier. Another diſadvantage is, that ſuch of the ſhips as are ſo diſabled as to be obliged to quit the line, cannot eaſily do it, becauſe in veering, for want of being able to tack, they fall between the two lines, where they are raked a-head, and by that means compleatly put in diſorder. But, ſhould they be fortunate enough to be able to finiſh their evolution, it is ſtill very difficult for them, diſabled as they are, to get to windward of their line; and very often they fall foul of the next ſhips a-ſtern of them, which have it ſcarcely in their power to prevent that accident, on account of the fire and ſmoak, eſpecially if the line is much contracted: and, ſhould theſe perceive it, and try to avoid being run foul of by falling back on their next ſhip a-ſtern, and ſo on thus ſucceſſively; it might happen, that from one to the other a great part of the fleet being obliged to manœuvre, their fire would leſſen, and very often ceaſe, by their covering each other; when the diſorder increaſes, and all is loſt, if the enemy take advantage of this critical moment.

But theſe inconveniences may be partly prevented, by having the diſabled ſhips quickly towed out of the line by the boats of the fleet, which, for that very purpoſe, ſhould always be hoiſted out from each ſhip before the engagement begins. Otherwiſe, if the ſhips in the weather line, not being too cloſe, have the neceſſary ſpace to obſerve what paſſes a-head of them, and to manœuvre, they ought to range themſelves to leeward of the diſabled veſſel, in order to cover her, and approach nearer to the enemy; all the other ſhips bearing up alſo together to preſerve the line.

THE ADVANTAGES OF THE FLEET TO LEEWARD. The fleet on the lee gage have the advantage of ſerving with facility and effect their lower deck guns, in all weathers proper for fleets to come to action: they can quit the engagement at pleaſure: their diſabled ſhips are at liberty to leave their ſtations without difficulty, if neceſſity requires it; thus they find themſelves under cover by the reſt, where they may ſoon be aſſiſted by the frigates. In this poſition, they can form the order of retreat with more promptitude, or continue the action as long as convenient. In ſhort, the lee line of battle can alſo, if ſuperior in number, double the enemy, by making ſome of the ſhips in the van or rear to tack, and put one of the extremities of the enemy's line between two fires; and, if they are formed in time, they may cannonade the enemy while bearing down to the attack.

THE DISADVANTAGES OF THE FLEET TO LEEWARD. Its diſadvantages are, being very much annoyed by the ſmoak, and a continued ſhower of fire from the wads falling on board, repelled by the wind; which, if not attended to, may be productive of very great accidents. The ſhips of the line to leeward cannot attempt to board thoſe of the other, whatever may be their inclination for it: they can hardly do more than accept the battle, without being able to determine either time or diſtance. It is but with a great deal of difficulty they can avoid being boarded, or prevent their line being broken, if the weather ſhips are bent upon doing it; and their fire ſhips very ſeldom are of uſe.

A general rule for the adoption of either the weather or lee gage cannot be laid down. Accident often ends our choice; but the ſtrength of his fleet, the object of his enterprize, the ſtate of the weather, and various other circumſtances, will regulate the conduct of a commander in chief in his preference of one to the other.

TO DISPUTE THE WEATHER GAGE WITH THE ENEMY.

Being in line of battle, and to leeward of an enemy of whom you wiſh to get the weather gage, your fleet is to be kept on the oppoſite tack to that of the enemy; becauſe, in that poſition, they will be obliged to edge very much away, ſhould they be inclined to come to action, and, by that means, they may loſe the advantage of the wind.

If your enemy perſiſts in keeping to windward, without coming to action, they will be obliged to keep upon the ſame tack with you, to prevent your getting into the wake, or doubling them by paſſing a-head and to windward, unleſs the whole of the weather fleet be abſolutely excellent ſailers, which is very rare, though not impoſſible. However, as fleets in general ſail nearly upon an equality, it will be impoſſible for the lee fleet to force the other to action, without a ſhift of wind; which is a very common event, and which every ſucceeding inſtant may bring about.

The lee fleet may turn to windward, and purſue the enemy according to the principles of chaſing, by tacking all at the ſame time, as ſoon as the center ſhip brings the middle veſſel of the weather line exactly on her beam, in order to join them by the ſhorteſt means poſſible, without, however, deviating from the order of battle, or ſailing on one line.

If the weather fleet be in order of battle, and the wind draw a-head, the lee fleet, if they be a-head and in order of battle, ought to box off on the ſame tack as before, in order to tack in ſucceſſion in the wake one of another, to reſtore the order of battle, drawing at the ſame time a great deal to windward: this manœuvre may even be the means of weathering the enemy, if the wind ſhould ſhift much: for they have no other method to regain the order of battle, without loſing much ground: though they will always loſe a great deal with reſpect to the poſition of the enemy to leeward.

IF THE LEE FLEET BE A-STERN, AND THE WIND SHIFTS AFT, WHILE THEY ARE ON THE CONTRARY TACK WITH THE ENEMY IN ORDER OF SAILING ON ONE LINE, the lee fleet ought to tack or veer altogether, and at the ſame inſtant; becauſe this ſhift of wind will be a-head for all the ſhips, in reſpect to their tacks then on board, and a-ſtern in reſpect to the order of battle. When the van ſhip is full on the other tack, as well as all the reſt in their former order of battle, ſhe ſhall haul by the wind, while the reſt of the fleet run large on their firſt line of battle as many points as the wind has ſhifted aft, to get into her wake ſucceſſively, and reſtore the order of battle while approaching the enemy, by which they may gain the wind of him, or elſe double him if the ſhift has been great: for, the only means they have of reſtoring the line of battle is by the van ſhip hauling by the wind, and the reſt coming into her wake in ſucceſſion. If the ſhift of wind was four points, the fleet to leeward would be obliged ſtill to perform the ſame manœuvre, that they may go about, after a certain time, ſucceſſively to windward of the enemy, who could only in the mean time have tacked all together, to bring their fleet ſuddenly in a line on the other board.

IF, WHEN THE WIND SHIFTS AFT, THE LEE FLEET IS A-STERN IN ORDER OF BATTLE, AND THE ENEMY BE ON THE OTHER TACK IN THE ORDER OF SAILING, the leading ſhip muſt haul cloſe to the wind immediately, while the other veſſels will in ſucceſſion bear away as many points as the wind has ſhifted, in order to perform the ſame manœuvre, and reſtore the line of battle. By obſerving this mode of manœuvering, you will approach the enemy, and gain as much to windward of him as poſſible, or get even the weather gage of him entirely, if the wind has ſhifted conſiderably. The rear ſhip of the fleet to leeward may immediately keep cloſe to this new wind on the ſame board, while all the reſt of the fleet, after having tacked together and at the ſame time, will come and place themſelves cloſe by the wind in her wake, where they are to tack ſucceſſively, in order to follow their rear ſhip, which is now become the leader, and which may break the enemy's line, or at leaſt gain the wind of him. But, to be able to go through this evolution, you muſt have nothing to fear from the enemy; for the fleet will be obliged to go about twice before the order of battle can be reſtored. The weather fleet ought to keep their wind as cloſe as poſſible, holding the enemy always exactly to leeward of them, by keeping on the ſame tack as he; and if the wind ſhifts a little, and becomes favourable to the enemy which is to leeward, the weather ſhips are then to keep exactly their wind, without caring for the preſervation of the line, unleſs the two fleets be abſolutely very near one another.

TO AVOID COMING TO ACTION.

WHEN TO WINDWARD.

THE weather fleet (unleſs the wind changes) having it always in their power to preſerve their advantage, can but with difficulty be forced to action; becauſe they may always hold the board on which they moſt recede from the enemy; while the fleet to leeward muſt run in the order of ſailing on one line, or in order of battle on the other tack, until their admiral have the center ſhip, or admiral, of the weather line, right a-breaſt of him, and perpendicular to his courſe, in order to tack all together and follow the weather fleet by the principles of chaſing. For, if the lee fleet ſtand on one tack till they can weather the retreating fleet, they will ſoon be out of ſight, ſince fleets in general ſail with nearly equal celerity.

The weather fleet may fly off in order of battle on the ſtarboard or larboard tack, while the lee fleet purſues them in the ſame manner, that is to ſay, in order of battle likewiſe and on either tack. But when they come to go about, they are to hold the order of ſailing. If the lee fleet is ſo much ſuperior to the weather fleet, as to be able to form a detachment of fine-ſailing ſhips, in a ſufficient number to attempt any thing, let it be done; then this ſquadron is to chaſe the flying enemy to windward, in the ſame manner as one ſingle ſhip chaſes another over which ſhe has the advantage in ſailing; while the remaining part of the ſuperior fleet will uſe every poſſible effort to get to windward, as we ſaid before.

By this manœuvre, the detachment of the ſwift-going veſſels having joined the enemy, will harraſs and diſturb their movements, beſides keeping them in ſight of the reſt of the fleet, which will then have the ſuperiority in ſailing; for, when you are engaged in an action, or when ſome of your ſhips are diſabled, it is impoſſible to manœuvre properly unleſs ſuch ſhips be abandoned; and then it becomes impoſſible to get out of ſight of a ſuperior fleet which takes that reſolution.

If the conſtancy of the winds could be depended upon, the weather fleet might, with impunity, preſerve their advantage in preſence of the enemy, were he not ſufficiently ſtrong to detach a ſquadron of ſuperior ſailers. But, as nothing is more frequent and common than the variation of the wind, it is always beſt to keep as far as poſſible out of ſight of a powerful adverſary, when you do not find yourſelf abſolutely in a ſituation to fight: and, on the contrary, the fleet inclined to come to action ought to keep in ſight and as near as poſſible, keeping always on the ſame board as the enemy, in order to catch the opportunity of the firſt ſhift of wind to force him to battle.

WHEN TO LEEWARD.

The lee fleet, which is wiſhing as much as poſſible to avoid an engagement, ought to form the order of retreat, to fly from the enemy if they are in view of him, and run on the ſame tack as their chaſer. But, if he is yet out of ſight, and they have intelligence of his approach by their frigates, which are looking out, they may run large from the hoſtile fleet, without confining themſelves to keep the wind exactly aft, unleſs they be in the order of retreat.

There are circumſtances when the lee fleet may run aft, without aſſuming the order of retreat; as, for example, when they wiſh to gain time, or come to action upon the enemy perſiſting obſtinately in his purſuit of them. Theſe extraordinary caſes excepted, a fleet never ought to fly before the enemy, without being in the order of retreat, as the rear is then in the beſt ſituation to extricate themſelves in caſe of accident.

TO FORCE THE ENEMY TO ACTION WHEN YOU ARE TO LEEWARD.

It has already been made evidently to appear that, when you are in preſence of the enemy, an engagement is almoſt unavoidable. The lee fleet, which is wiſhing to come at any rate to action, have therefore, in that caſe, need of nothing but patience; for, in keeping always on the ſame tack with the weather fleet, and taking care to have them ſo exactly a-breaſt as to prevent the leaſt danger of loſing ſight of them, you are ready to take advantage of the firſt favourable ſhift of wind to make the attack.

Night is certainly the time when an alteration of courſe may beſt be attempted. But the lee fleet is to have frigates on the look out, which, by ſignals, will continually give notice of the manœuvre and courſe of the retreating fleet to windward, which, by theſe means, is always expoſed to be purſued without being able to get off unſeen, and muſt, ſooner or later, be compelled to come to action, unleſs they can get into ſome port, or a gale of wind ſhould come to reſcue them, by diſperſing both fleets, and thus furniſh the means of retreating in a ſtorm.

TO BEAR DOWN ON THE ENEMY, AND FORCE HIM TO ACTION.

If the lee fleet keep cloſe to the wind in order of battle, with the deſign of bringing the weather line to action, the fleet to windward are to ſtand on in the ſame manner till they are a-breaſt of the enemy; then, they are all together, and at the ſame time, to bear away, and ſteer exactly ſo as to bring their reſpective opponents, in the adverſe line, on the ſame point of the compaſs with them, obſerving the principles of chaſing, which are to be obſerved by every chaſer to windward. Thus the fleets will ſoon be near enough to begin the action; and the bow of each ſhip being preſented to her opponent, in the order of ſailing, will be eaſily changed for the line of battle, by all the ſhips hauling cloſe to the wind together, in the moment which precedes the beginning of the action.

The fleet to leeward, inclined to engage, might bring-to, to prevent loſing time; as, by this manœuvre, leſs time will be requiſite for the weather fleet to join them: then they will fill as ſoon as the action begins, becauſe it is more favourable to a lee line to be advancing a-head; ſince, if a ſhip be diſabled in the weather line (which is obliged to follow with the top-ſails full), ſhe will infallibly drop, and run foul of the next veſſel a-ſtern of her, covered with fire and ſmoak, which may be productive of great diſorder.

As the lee fleet fill and ſtand on cloſe by the wind, it is neceſſary that the weather line ſhould be a-breaſt and parallel to the other, before they bear away to come within the requiſite diſtance for action; in order that the van ſhip of the weather fleet ſhould always keep to windward of the leading ſhip of the lee line, and be guarded againſt ſuch a ſhift of wind as might come a-head; which would not have been the caſe if they were a-ſtern of the van ſhip in the lee fleet, which, as well as the reſt of the line, would be able then to double them to windward, by tacking in ſucceſſion.

Another reaſon for the weather line being right a-breaſt of the enemy to leeward, and for every ſhip ſteering on the ſame point in approaching her opponent in the leeward line of battle, is, that the fleets may be placed exactly parallel to each other; for, as the weather line muſt not be a-ſtern, becauſe of the riſk of winds coming more forward, neither muſt they be a-head of the line to leeward, leſt the wind ſhould come more aft; for then, the lee fleet keeping cloſe by the wind in the wake of their leading ſhip, might, by this ſhift, be as far to windward as the oppoſing fleet, or even get the weather gage of them.

But, if the weather fleet keep exactly a-breaſt of the other, they will always be in a ſituation to preſerve their advantage, without expoſing themſelves. It is, notwithſtanding, certain that thoſe ſhips keeping more away than the line to leeward, will find themſelves, when come within gun-ſhot, in a very diſagreeable ſituation, with reſpect to the enemy's ſhips, which will have it then in their power to rake them as they bear down. This may occaſion much diſorder among the ſhips of the weather line, which for that moment have it not in their power to fire their whole broadſide at the enemy, who has the advantage of beginning the action.

If the lee fleet bear away four points, to move their order of battle on the other tack and avoid the action, filing off in ſucceſſion in the wake of the van ſhip; the weather line, by bearing away all together eight points, cannot fail (both fleets being ſuppoſed to ſail equally) to paſs through the middle of the line, and force them to fight with diſadvantage, if their extent be double the diſtance between the two fleets; for, if they be leſs numerous, they will not be ſo ſoon engaged, becauſe it will be more difficult to cut off any part of them than if the line had four leagues extent, and the diſtance between the fleets only two. A fleet, whoſe extent ſhould not exceed two miles, would (ſuppoſing an equality of ſailing) be able to file off in one half of the time the other would take to join them; but the weather fleet would ſtill have approached them two miles.

If the lee fleet bear away four points all together, being of equal extent with the line to windward, and their diſtance from each other equal to half the length of one of the files, ſhould the weather fleet bear away at the ſame time eight points, they will approach very near, it is true, the ſternmoſt of the retreating fleet; but they will not have it in their power to cut any of that fleet off, even with an equality of ſailing: ſo that the only advantage gained by this manœuvre will be an ability of attacking the rear, and bringing it to action.

If the van ſhip and the reſt of the weather fleet had a ſufficient velocity to keep the center ſhip of the lee line on the ſame point of bearing; in that caſe, the leading ſhip may break through the enemy's line about the middle ſhip of the center diviſion; for, ſuppoſing the fleets in order of battle, on the ſtarboard tack, ſteering Eaſt with the wind at S S E, being at two leagues diſtance from each other, both the files being four leagues in extent; the lee line, bearing away alltogether four points large, will run N E, while that to windward, bearing away all together eight points, will ſteer North, the van ſhip of which will keep the center diviſion of the lee line on the point of bearing N W: as ſhe is ſuppoſed to be able to continue in this poſition, it follows, that the van of the weather file muſt cloſe the center of the flying line to leeward, after having run four leagues. The time and diſtance neceſſary to cut off a retreating fleet may always be known, according to the laſt ſuppoſition; becauſe, by the bearing of the two ſhips from the van to the center, we have the baſis of a triangle which will be completely formed by the two courſes ſteered by theſe two ſhips, and in which two angles and one ſide at leaſt will always be known; which is full ſufficient to find the reſt, and conſequently to judge the diſtance to be run before cloſing the enemy.

Should the lee fleet get upon the other tack, and run large, ſtill preſerving the order of battle, they will be ſtill ſooner cloſed, and forced to action by the weather fleet, who have only to keep away from eight to nine points on the ſame tack, or run right before the wind.

The weather fleet can always force the lee one to action, whatever movements they make; for, if they run with the wind right aft, in order of battle, they cannot (ſuppoſing an equality of ſailing) avoid being cloſed, or broken nearly about the center by the weather line, which has only to ſteer two points on each tack nearer the wind than the retreating fleet. So that the rear of the weather fleet, having bore away no more than eight points, will find, at the end of a certain time, to have approached extremely near the center of the retreating fleet, and, in a ſhort time more, will be able to bring their rear to action.

The weather fleet have yet another advantage; becauſe, as their ſhips have the wind on the quarter, they ſail with greater celerity than thoſe of the lee fleet, which run before the wind. The lee fleet being abſolutely determined to fly, has therefore no other expedient left to prolong time, but to combat in the order of retreat, right before the wind, or on the ſame courſe as the purſuing fleet; for other advantages are not to be relied on, if purſued by a victorious foe.

If, from all that has been ſaid, it reſults that it is not poſſible for a fleet of equal force to avoid an action, how then muſt it be with one much inferior? The more numerous has nothing to do but to form a detachment of ſuperior ſailers, which will chaſe ſtrait before them and begin the action, while ſome others approach to finiſh it. Whence we may conclude that, when in preſence of too powerful an enemy, it will never be poſſible to avoid an action, if he is determined to come to one.

TO DOUBLE THE ENEMY WHEN SUPERIOR TO HIM, AND TO LEEWARD OF HIM.

THE lee fleet, having the ſuperiority in number, ought to endeavour to range exactly a-breaſt and parallel to the weather file, ſo that the van or rear may extend beyond their line, in order to over-reach them, by tacking in ſucceſſion to double to windward their van or rear, and bring them between two fires. Provided this manœuvre be properly executed, it will be impoſſible for the ſhips in the weather line, thus preſſed, to continue long in their poſts; for there is no veſſel cloſely attacked by two others of equal force which can long reſiſt being overcome, ſince it is always in the power of one of them to get into ſuch a poſition as to be able, without much danger on her ſide, to deſtroy the enemy in a very ſhort time.

But whether the moſt advantageous evolution is to double the van or the rear, is neceſſary to be conſidered; for both the one and the other have, in reality, ſo conſiderable an advantage, that either of them may in a very little time determine the fate of a battle.

If the fleet with which you are engaged be to windward, either the van or their rear may be doubled; but the van may with the greateſt facility; becauſe, if they are engaged by the ſhips a-breaſt of them, thoſe which are advanced a-head will be able, by making all ſail, to get on the perpendicular to the direction of the wind with the van of the enemy, and tack in ſucceſſion to gain the wind of them on the other board, thus keeping them to leeward: and, when they are come ſufficiently to windward, they are again to go about, in order to keep the two headmoſt ſhips of the enemy's line continually under their fire. If there be two or three ſhips to tack in ſucceſſion and gain the wind of the enemy, they may edge down on the van of the weather line at pleaſure, keeping themſelves a little to windward of it; and, as that van-guard is already engaged by the other ſhips a-breaſt on the other ſide, ſhe muſt neceſſarily be ſoon diſabled. If they bear away, they muſt drop upon the line with which they are engaged to leeward, while the ſhips to windward ſtill continue to cannonade them. If they attempt going about, in order to attack more cloſely the ſhips to windward, they will be raked, while in ſtays, by their opponents to leeward and to windward, who pouring into them whole broadſides, which they cannot return, muſt abſolutely complete their diſorder. If they make ſail in order to fruſtrate the deſign of the ſhips inclined to double, thoſe with which they are engaged a-breaſt to leeward have only to perform the ſame manœuvre, and keep them under their fire; while the others, after having haraſſed them as much as poſſible, will do their beſt to perform the ſame manœuvre on the ſucceeding ſhips.

The captains deſtined to double the enemy ought to be men of known ability as well as of approved courage. They ſhould not be ordered upon that expedition but in weather fit for ſailing at the rate of three knots an hour: and, for the greater promptitude and certainty of ſucceſs, none but the beſt going ſhips are to be employed in that ſort of manœuvre.

If any of the ſhips in the van of the weather line happen to be diſabled in their maſts or yards, as will moſt probably be the caſe after having been between two fires, they will drop a-ſtern and run foul of the next which follows, and theſe again of their ſubſequent comrades; at laſt, diſorder will become prevalent, by ſhips running foul of each other, or manœuvering to avoid the ſame accident; ſo that the order of battle will be broke, while, on the other hand, the line to leeward is preſerved with all the advantage poſſible. The ſhips which have gained the wind of the enemy will, by continuing their manœuvre, augment the confuſion, engaging, however, no more than they like: and if, by chance or misfortune, they ſhould be crippled, it will not certainly be an eaſy matter for them to extricate themſelves. But as they may, on the other tack, drop a-ſtern to windward of the enemy's line, or veer again like him, they muſt extricate themſelves as well as they can, and always advantageouſly enough, if, by doubling the van-guard, they are able to throw it into diſorder.

If the rear of the lee fleet be extended beyond the ſternmoſt ſhip of the weather line, they will be obliged, if they want to double the rear of the enemy to windward, to make ſail and tack in ſucceſſion; in which manœuvre, the headmoſt ſhip of thoſe deſtined for this ſervice is to go about firſt: then, continuing to keep up a briſk cannonade as they come to the wind, they will go and heave about again a little to windward of the rear of the enemy, in order to bring their ſtern ſhips between two fires; and, ſhould they have the good fortune to oblige them to bear away, they muſt go on ſucceſſively from one ſhip to another, as long as they find they ſucceed in forcing them to give way. Should diſorder take place in the rear of the weather fleet, it will not be near ſo prejudicial to the enemy as if it had happened in the van; on the contrary, it may turn out to be of ſome advantage to them. But the veſſels combating to windward can eaſily withdraw from the fight, by backing a-ſtern, when they find themſelves too hard preſſed.

Ships diſmaſted, or even deprived of the uſe of a topſail in the weather line, cannot, without great riſk, retire from the order of battle (when under neceſſity to do ſo), nor paſs to windward of their rear, in order to refit; for veſſels ſo circumſtanced cannot ſtay; and even if they could, their ſtern would be for a great while expoſed to the enemy, who, in that poſition, would ſoon render them motionleſs, by completely deſtroying the little rigging they had left.

If ſuch ſhips be obliged to veer, that manœuvre making them approach nearer the enemy, they cannot avoid preſenting their head to their opponent, a ſituation ſo dangerous, that little more is wanting to complete their total deſtruction. But, ſuppoſing them able to finiſh their evolution, they will not have it in their power to paſs to windward of their ſecond a-ſtern, without running foul of her: for the diſtance of one hundred fathoms between the ſhips is not ſufficient to give a diſabled veſſel, which has dropt above fifty fathoms to leeward in veering, ſufficient time to gain to windward the diſtance neceſſary to paſs a-head of the ſhip which immediately follows. Nothing but boats can therefore aſſiſt her, by towing, to get under cover: and yet that will not be executed without undergoing a very heavy fire from the enemy. If it be a van ſhip which is diſabled, being doubled to windward by one or two of the lee line, it will be impoſſible for her to diſengage herſelf: for the two ſhips which have gained the wind of her will not leave her, nor ſuffer her to receive the leaſt aſſiſtance from the boats or frigates which may be ſent to her relief; and, ſhould the fleet ſhe belongs to bear away and paſs to leeward of her, which is the only manœuvre they have to execute in theſe circumſtances, the diſabled ſhip will be ſacrificed, they being unable, without the utmoſt difficulty, to give her the ſmalleſt aſſiſtance; for every ſhip is engaged by the opponent which is a-breaſt of her, and the leaſt remiſſion of their fire, by fighting on the other ſide to aſſiſt, as they paſs, the diſabled ſhip, would give the lee enemy a decided advantage.

TO DOUBLE THE ENEMY WHEN TO WINDWARD OF HIM.

The ſhips of the weather line, having extended their van beyond that of the lee line, are to veer, in order to bring the headmoſt ſhips of the enemy's line between two fires. But let them do as they will, there never can reſult ſo much advantage from this manœuvre as when doubling a fleet to windward, becauſe the diſabled ſhips can always veer with facility. True it is, they cannot fail becoming at the ſame time the prey of the enemy; for both thoſe which have doubled them, and thoſe with which they are engaged a-breaſt in the weather line, will always have it in their power jointly to preſs as cloſe upon them as they think proper.

If the ſhips which have doubled the van of the lee fleet, with which they are engaged, be diſabled, they will be obliged, as they cannot make ſail, to paſs along the lee line; and they cannot eſcape being totally deſtroyed, if they do not bear away before the wind to get out of gun-ſhot; during which manœuvre they cannot avoid being ſtill in a very diſagreeable ſituation.

Should the ſternmoſt ſhips of the weather fleet be diſabled, in doubling the enemy's rear, they have only, if they want to extricate themſelves, to drop a-ſtern, and let the two fleets advance a-head; and, after having refitted themſelves, they will re-aſſume their poſts.

It has been propoſed, to avoid being doubled by a fleet ſuperior in numbers, to leave ſpaces in the length of the line, or to place the ſhips at ſuch a diſtance from each other, as to render the length of the inferior line equal to that of the ſuperior. But neither of theſe manœuvres, nor any other of the ſort which might be contrived on that ſubject, will ever be of ſervice, if the opponents poſſeſs ſkill and ability; for theſe will always diſpoſe their ſhips in ſuch a manner, that ſeveral ſhips of the inferior fleet will receive the fire of many at once, and will conſequently be obliged ſoon to give way.

TO

TO FORCE OR TRAVERSE THE ENEMY'S LINE.

THIS is a manœuvre the lee fleet may execute to gain the advantage of the wind. It is performed by the van ſhip, if within gun-ſhot, tacking when ſhe and the center ſhip of the weather line are on a perpendicular to the direction of the wind: then all the lee fleet tack in ſucceſſion, and thus may paſs through the center of the enemy's line, or perhaps a little more towards the enemy's van, and go about again in ſucceſſion to windward of him. But as he will not be long, without doubt, before he performs the ſame manœuvre, he will thus be able to regain the wind, if you do not force him to give way under your fire before his evolution is finiſhed. The enemy to windward may even cauſe his van ſhip to tack, as well as the reſt of the van-guard to follow in ſucceſſion, as ſoon as the leading ſhip of the lee fleet ſhall have paſſed through his line and be ready to go about, by which means he will bring them between two fires. This manœuvre, well executed, might perhaps give no little trouble to the ſhip attempting to force the line.

This evolution may be performed with advantage, if, by ſome accident or fault in the manœuvering, the center diviſion of the weather line be ſeparated from their van or rear. For example, when the center diviſion to windward is incumbered with diſabled ſhips, then thoſe of the center diviſion to leeward are, with all ſails ſet, to tack in ſucceſſion, and force with promptitude through the weather fleet, to augment their diſorder, leaving their own van diviſion to engage that of the enemy on the other tack.

TO PREVENT THE LINE BEING FORCED.

When the lee fleet go about in ſucceſſion, in order to traverſe the enemy, the whole line to windward are to tack together and at the ſame time, to get upon the ſame board as the enemy, who will neither be able to join nor to traverſe them.

To perform this evolution with advantage, you muſt let ſome of the van ſhips of the traverſing fleet paſs to windward, then go all rapidly about, in order to put and keep them between two fires; thus you may ſucceed in deſtroying them, without their own fleet being able to give them any effectual aſſiſtance.

It is eaſy to perceive, from what has been ſaid, that there is little occaſion to fear being traverſed, as ſuch a manœuvre may turn to be more prejudicial than advantageous to thoſe who perform it. Nevertheleſs, it may and ought to be put in practice when the weather fleet leave ſuch vacancies between their diviſions as to allow ſome ſhips of the lee fleet to be inactive. In this caſe, the ſhips which are without opponents a-breaſt of them are made to tack, with all ſails ſet, in ſucceſſion, and paſs through theſe intervals of the weather line, in order to double the center diviſion, or any other part of it, and bring it between two fires; while the other ſhips which are a-breaſt, and on the other ſide of it, cannonade from to leeward.

TO BRING A FLEET TO AN ANCHOR.

A CONSIDERABLE fleet ought to anchor in three parallel lines, at the proper diſtance which the length of the columns generally require. The ſhips being a hundred fathoms from each other, in the line of their headmoſt ſhip, which is to be on one of the cloſe-hauled lines of bearing; the van and rear of the columns are to correſpond with each other exactly in the direction of the wind, that they may with eaſe get under way, and form the order of battle with facility, ſo as to be able to diſpute the weather gage with the enemy, if there ſhould come one. As this evolution is to be performed in moderate weather, the fleet being in order on three columns, they are all at the ſame time to bring their ſhip's head to wind under their topſails, and let go their anchors together, clewing up the topſails, with all poſſible diſpatch, head to wind; putting the foot of the ſails in the tops, and looſening the ſails before hauling them down; then veering away an equal quantity of cable to preſerve their diſtances.

When it blows ſo freſh as to require the topſails being reefed, two cables length diſtance may be kept between the ſhips, and even three if it be likely to blow hard.

If the fleet do not exceed twenty ſhips, they may anchor on one of the lines of bearing, or parallel to the coaſt, in places where trade winds are common, provided they blow in the direction of the land; for, in all caſes, they muſt be in a condition to get under way at the firſt ſight of the enemy, whoſe approach is never to be waited for at anchor; becauſe, if it be dangerous for a ſingle ſhip, it muſt be ſtill more ſo for a fleet, the movements of which are interrupted by the difficulty there is in quickly getting under way ſhips which are moored, and which, in that caſe, are not much able mutually to ſupport one another, as is abſolutely requiſite in a fleet.

TO GET A FLEET UNDER WAY.

All the fleet being ſhort a-peek, the lee column is to get under way firſt, and bring-to all at the ſame time, juſt as they find themſelves after caſting. The center column is then to perform the ſame manœuvre, and caſt likewiſe as ſoon as the other column is brought-to; and both columns will remain in that ſame poſition of lying-to as the lee column, till the weather column, which is ſtill a-peek, having weighed, ſhould be alſo under way.

The three columns may often be got under way all at once: but, to execute this, the fleet muſt all act together, and with equal ardour; for the weather ſhips muſt not at any rate be under way before the lee ones.

If it be neceſſary to get immediately in order of battle, the weather columns are at once to bear away two points together, that they may take their poſts in the line of battle a-head of the lee column.

If the fleet be moored on a line, and head to wind, the rear ſhip may get under way firſt, and haul immediately by the wind; the others in ſucceſſion, from the rear to the van, can eaſily take their ſtation in her wake, ſo that the rear ſhip will become leader.

If the fleet be moored in a line head to wind, they may all get under way at the ſame time; but the van ſhip is to bring-to, while the reſt, caſting the other way, would ſtand on by the wind on the ſame tack on which they are caſt, and come to tack ſucceſſively in her wake, to form the order of battle.

If you wiſhed to be more to windward, the fleet having all at the ſame time got under way, and caſt all on the ſame tack, the van ſhip might heave about under an eaſy ſail; and all the reſt, continuing cloſe-hauled on the ſame tack they got under way, will come, in ſucceſſion, in his wake, when they are to ſtay. Obſerve, at the ſame time, the rear ſhips are to carry all poſſible ſail.

TO PUT A FLEET IN A POSITION OF DEFENCE IN A ROAD-STEAD.

When a road-ſtead is ſufficiently ſpacious, and the entrance not too much extended, the ſhips are to be moored with ſprings, in two parallel lines from the entrance to the bottom of the bay; the van ſhip ſo near the land that it ſhould be impoſſible for the enemy to paſs between them and the ſhore, and he may be obliged to paſs between the two lines, the van ſhips of which muſt be ſupported by good batteries on ſhore, at the two extremities of the boom, which they muſt take care to have conſtructed from one ſide to the other, when poſſible, or only before the ſhips, if it cannot be done otherwiſe. Beſides this, there ſhould be gun-boats deſtined to poſt themſelves a-head or a-ſtern of the ſhips attempting to force the port. There are alſo to be fire-ſhips moored within the points, that they may be to windward of the enemy after they have got into the port, ſuppoſing them to have been able to force the entrance.

THE EXERCISE OF THE GREAT GUNS.

In order to render ſeamen expert in the uſe of artillery, they are frequently practiſed in the following exerciſe; which is here introduced, becauſe, without ſkill in annoying an enemy, the moſt able manœuvres may fail in their deſired objects.

Upon beating to arms (every perſon having immediately repaired to his quarters) the midſhipman, commanding a number of guns, is to ſee they are not without every neceſſary article, as (at every gun) a ſpunge, powder-horn, with its priming wires, and a ſufficient quantity of powder, ſhot, crow, handſpec, bed, quoin, train-tackle, &c. ſending, without delay, for a ſupply of any thing that may be miſſing; and, for the greater certainty of not overlooking any deficiency, he is to give ſtrict orders to each captain under him, to make the like examination at his reſpective gun, and to take care that every requiſite is in a ſerviceable condition, which he is to report accordingly. And, for the ſtill more certain and ſpeedy account being taken upon theſe occaſions, the midſhipman is to give each man his charge at quarters, (as expreſſed in the form of the monthly report) who is to ſearch for his particular implements, and, not finding them, is immediately to acquaint his captain, that, upon his report to the midſhipman, they may be replaced.

The man who takes care of the powder is to place himſelf on the oppoſite ſide of the deck from that where we engage, except when fighting both ſides at once, when he is to be amidſhips. He is not to ſuffer any other man to take a cartridge from him but he who is appointed to ſerve the gun with that article, either in time of a real engagement, or at exerciſe.

Lanterns are not to be brought to quarters in the night, until the midſhipman gives his orders for ſo doing to the perſon he charges with that article. Every thing being in its place, and not the leaſt lumber in the way of the guns, the exerciſe begins with,

1ſt. SILENCE.—At this word every one is to obſerve a ſilent attention to the officers.

2d. CAST LOOSE YOUR GUNS.—The muzzle laſhing is to be taken off from the guns; and, being coiled up in a ſmall compaſs, is to be made faſt to the eye-bolt above the port. The laſhing-tackles at the ſame time to be caſt looſe, and the middle of the breeching ſeized to the thimble of the pomillion. The ſpunge to be taken down, and, with the crow, handſpec, &c. laid upon the deck, by the gun.

When prepared for engaging an enemy, the ſeizing within the clinch of the breeching is to be cut, that the gun may come ſufficiently within-board for loading, and that the force of the recoil may be more ſpent before it acts upon the breeching.

3d. LEVEL YOUR GUNS.—The breech of your metal is to be raiſed ſo as to admit the foot of the bed being placed upon the axle-tree of the carriage, with the quoin upon the bed, both their ends being even one with the other.

When levelled for firing, the bed is to be laſhed to the bolt which ſupports the inner end of it, that it may not be thrown out of its place by the violence of the gun's motion, when hot with frequent diſcharges.

4th. TAKE OUT YOUR TOMPIONS.---The tompion is to be taken out of the gun's mouth, and left hanging by its laniard.

5th. RUN OUT YOUR GUNS.---With the tackles hooked to the upper bolts of the carriage, the gun is to be bowſed out as cloſe as poſſible, without the aſſiſtance of crows or handſpecs; taking care at the ſame time to keep the breeching clear of the trucks, by hauling it through the rings; it is then to be bent ſo as to run clear when the gun is fired. When the gun is out, the tackle-falls are to be laid along-ſide the carriages in neat fakes, that, when the gun, by recoiling, overhauls them, they may not be ſubject to get foul, as they would if in a common coil.

6th. PRIME.---If the cartridge is to be pierced with the priming wire, and the vent filled with powder, the pan alſo is to be filled; and the flat ſpace, having a ſcore through it at the end of the pan, is to be covered, and this part of the priming is to be bruiſed with the round part of the horn. The apron is to be laid over, and the horn hung up out of danger from the flaſh of the priming.

7th. POINT YOUR GUNS.---At this command the gun is, in the firſt place, to be elevated to the height of the object, by means of the ſide-ſights; and then the perſon pointing is to direct his fire by the upper-ſight, having a crow on one ſide, and a handſpec on the other, to heave the gun by his direction till he catches the object.

The men who heave the gun for pointing are to ſtand between the ſhip's ſide and their crows or handſpecs, to eſcape the injury they might otherwiſe receive from their being ſtruck againſt them, or ſplintered by a ſhot; and the man who attends the captain with a match is to bring it at the word, "POINT YOUR GUNS;" and, kneeling upon one knee oppoſite the train-truck of the carriage, and at ſuch a diſtance as to be able to touch the priming, is to turn his head from the gun, and keep blowing gently upon the lighted match to keep it clear from aſhes. And, as the miſſing of an enemy in action, by neglect or want of coolneſs, is moſt inexcuſable, it is particularly recommended to have the people thoroughly inſtructed in pointing well, and taught to know the ill conſequences of not taking proper means to hit their mark; wherefore they ſhould be made to elevate their guns to the utmoſt nicety, and then to point with the ſame exactneſs; and, having caught the object through the upper-ſight, at the word,

8th. FIRE.---The match is inſtantly to be put to the bruiſed part of the priming; and, when the gun is diſcharged, the vent is to be cloſed, in order to ſmother any ſpark of fire that may remain in the chamber of the gun; and the man who ſpunges is immediately to place himſelf by the muzzle of the gun in readineſs.

9th. SPUNGE YOUR GUNS.---The ſpunge is to be rammed down to the bottom of the chamber, and then twiſted round, to extinguiſh effectually any remains of fire; and, when drawn out, to be ſtruck againſt the outſide of the muzzle, to ſhake off any ſparks or ſcraps of the cartridge that may have come out with it; and next, its end is to be ſhifted ready for loading; and, while this is doing, the man appointed to provide a cartridge is to go to the box, and by the time the ſpunge is out of the gun, he is to have it ready.

10th. LOAD WITH CARTRIDGE.---The cartridge (with the bottom end firſt, ſeam downwards, and a wad after it) is to be put into the gun, and thruſt a little way within the mouth, when the rammer is to be entered; the cartridge is then to be forcibly rammed down, and the captain at the ſame time is to keep his priming-wire in the vent, and, feeling the cartridge, is to give the word *home*, when the rammer is to be drawn, and not before. While this is doing, the man appointed to provide a ſhot is to provide one (or two, according to the order at that time) ready at the muzzle, with a wad likewiſe, and when the rammer is drawn, at the word,

11th. SHOT YOUR GUNS.---The ſhot and wad upon it are to be put into the gun, and thruſt a little way down, when the rammer is to be entered as before. The ſhot and wad are to be rammed down to the cartridge, and there have a couple of forcible ſtrokes, when the rammer is to be drawn, and laid out of the way of the guns and tackles, if the exerciſe or action is continued; but if it is over, the ſpunge is to be ſecured in the place it is at all times kept in.

12th. PUT IN YOUR TOMPIONS.---The tompions to be put into the muzzle of the cannon.

13th. HOUSE YOUR GUNS.---The ſeizing is to be put on again upon the clinched end of the breeching, leaving it no ſlacker than to admit of the guns being houſed with eaſe. The quoin is to be taken from under the breech of the gun, and the bed, ſtill reſting upon the bolt, within the carriage, thruſt under, till the foot of it falls off the axle-tree, leaving it to reſt upon the end which projects out from the foot. The metal is to be let down upon this. The gun is to be placed exactly ſquare, and the muzzle is to be cloſe to the wood, in its proper place for paſſing the muzzle laſhings.

14th. SECURE YOUR GUNS.---The muzzle laſhings muſt firſt be made ſecure, and then with one tackle (having all its parts equally tight with the breeching) the gun is to be laſhed. The other tackle is to be bowſed tight, and by itſelf made faſt, that it may be ready to caſt off for laſhing a ſecond breeching.

Care muſt be taken to hook the firſt tackle to the upper bolt of the carriage, that it may not otherwiſe obſtruct the reeving of the ſecond breeching, and to give the greater length to the end part of the fall.

No pains muſt be ſpared in bowſing the laſhing very tight, that the gun may have the leaſt play that is poſſible, as their being looſe may be productive of very dangerous conſequences.

The quoin, crow, and handſpec are to be put under the gun, the powder-horn hung up in its place, &c.

Being engaged at any time when there is a large ſwell, a rough ſea, or in ſqually weather, &c. as the ſhip may be liable to be ſuddenly much heeled, the port-tackle fall is to be kept clear, and (whenever the working of the gun will admit of it) the man charged with that office is to keep it in his hand; at the ſame time the muzzle laſhing is to be kept faſt to the ring of the port, and being hauled tight, is to be faſtened to the eye-bolt over the port-hole, ſo as to be out of the gun's way, in firing, in order to haul it in at any time of danger.

This precaution is not to be omitted, when engaging to the windward, any more than when to the leeward, thoſe ſituations being very ſubject to alter at too ſhort a warning.

A train-tackle is always to be made uſe of with the lee guns, and the man ſtationed to attend it is to be very careful in preventing the gun's running out at an improper time.

EPITOME OF A GENERAL ENGAGEMENT.

THE whole œconomy of a naval engagement may be arranged under the following heads, viz. the PREPARATION; the ACTION; and the REPAIR, or refitting for the purpoſes of navigation.

The PREPARATION is begun by iſſuing an order to clear the ſhip for action, which is repeated by the boatſwain and his mates at all the hatchways leading to the different decks. As the cannon cannot be worked while the hammocs are ſuſpended in their uſual ſituations, it becomes neceſſary to remove them as quick as poſſible. By this circumſtance a double advantage is obtained: the batteries of cannon are immediately cleared of an incumbrance, and the hammocs are converted into a ſort of parapet, to prevent the execution of ſmall ſhot on the quarter-deck, tops, and fore-caſtle. At the ſummons of the boatſwain, *Up all hammocs!* every ſailor repairs to his own, and, having ſtowed his bedding properly, he cords it firmly with a laſhing, or line, provided for that purpoſe; he then carries it to the quarter-deck, poop, or fore-caſtle, or wherever it may be neceſſary. As each ſide of the quarter-deck and poop is furniſhed with a double net-work, ſupported by iron cranes fixed immediately above the gunnel, or top of the ſhip's ſide, the hammocs thus corded are firmly ſtowed by the quarter-maſter between the two parts of the netting, ſo as to form an excellent barrier. The tops, waiſt, and fore-caſtle are then fenced in the ſame manner.

Whilſt theſe offices are performed below, the boatſwain and his mates are employed in ſecuring the ſail-yards, to prevent them from tumbling down when the ſhip is cannonaded, as ſhe might thereby be diſabled, and rendered incapable of attack, retreat, or purſuit. The yards are now likewiſe ſecured by ſtrong chains, or ropes, additional to thoſe by which they are uſually ſuſpended. The boatſwain alſo provides the neceſſary materials to repair the rigging, wherever it may be damaged by the ſhot of the enemy, and to ſupply whatever parts of it may be entirely deſtroyed. The carpenter and his crew in the meanwhile prepare his ſhot-plugs and mauls, to cloſe up any dangerous breaches that may be made near the ſurface of the water; and provide the iron work neceſſary to refit the chain-pumps, in caſe their machinery ſhould be wounded in the engagement. The gunner, with his mates and quarter-gunners, is buſied in examining the cannon of the different batteries, to ſee that their charges are thoroughly dry and fit for execution: to have every thing ready for furniſhing the great guns and ſmall arms with powder, as ſoon as the action begins: and to keep a ſufficient number of cartridges continually filled, to ſupply the place of thoſe expended in battle. The maſter and his mates are attentive to have the ſails properly trimmed, according to the ſituation of the ſhip; and to reduce or multiply them, as occaſion requires, with all poſſible expedition. The lieutenants viſit the different decks, to ſee that they are effectually cleared of all incumbrance, ſo that nothing may retard the execution of the artillery; and to enjoin the other officers to diligence and alertneſs, in making the neceſſary diſpoſitions for the expected engagement, ſo that every thing may be in readineſs at a moment's warning.

When the hoſtile ſhips have approached each other to a competent diſtance, the drums beat to arms. The boatſwain and his mates pipe, *all hands to quarters!* at every hatchway. All the perſons appointed to manage the great guns immediately repair to their reſpective ſtations. The crows, handſpecs, rammers, ſpunges, powder-horns, matches, and train-tackles, are placed in order by the ſide of every cannon. The hatches are immediately laid, to prevent any one from deſerting his poſt by eſcaping into the lower apartments. The marines are drawn up in rank and file on the quarter-deck, poop, and fore-caſtle. The laſhings of the great guns are caſt looſe, and the tompions withdrawn. The whole artillery, above and below, is run out at the ports, and levelled to the point-blank range ready for firing.

The neceſſary preparations being completed, and the officers and crew ready at their reſpective ſtations, to obey the order, the commencement of the action is determined by the mutual diſtance and ſituation of the adverſe ſhips, or by the ſignal from the commander in chief of the fleet or ſquadron. The cannon being levelled in parallel rows, projecting from the ſhip's ſide, the moſt natural order of battle is evidently to range the ſhips a-breaſt of each other, eſpecially if the engagement is general. The moſt convenient diſtance is properly within the point-blank range of a muſket, ſo that all the artillery may do effectual execution.

The ACTION uſually begins by a vigorous cannonade, accompanied with the whole efforts of the ſwivel guns and the ſmall arms. The method of firing in platoons, or vollies of cannon at once, appears inconvenient in the ſea ſervice, and perhaps ſhould never be attempted, unleſs in the battering of a fortification. The ſides and decks of the ſhip, although ſufficiently ſtrong for all the purpoſes of war, would be too much ſhaken by ſo violent an exploſion and recoil. The general rule obſerved on this occaſion throughout the ſhip, is to load, fire, and ſpunge the guns with all poſſible expedition, yet without confuſion or precipitation. The captain of each gun is particularly enjoined to fire when the piece is properly directed to its object, that the ſhot may not be fruitleſsly expended. The lieutenants, who command the different batteries, traverſe the deck to ſee that the battle is proſecuted with vivacity; and to exhort and animate the men to their duty. The midſhipmen ſecond theſe injunctions, and give the neceſſary aſſiſtance, wherever it may be required, at the guns committed to their charge. The gunner ſhould be particularly attentive that all the artillery is ſufficiently ſupplied with powder, and that the cartridges are carefully conveyed along the decks in covered boxes. The havock produced by a continuation of this mutual aſſault may be readily conjectured by the reader's imagination. The defeated ſhip having acknowledged the victor, by ſtriking her colours, is immediately taken poſſeſſion of by the conqueror, who ſecures her officers and crew as priſoners in his own ſhip, and inveſts his principal officer with the command of the prize until a captain is appointed by the commander in chief.

The engagement being concluded, they begin the REPAIR: the cannon are ſecured by their breechings and tackles with all convenient expedition. Whatever ſails have been rendered unſerviceable are unbent, and the wounded maſts and yards ſtruck upon the deck, and fiſhed or replaced by others. The ſtanding rigging is knotted, and the running rigging ſpliced wherever neceſſary. Proper ſails are bent in the room of thoſe which have been diſplaced as uſeleſs. The carpenter and his crew are employed in repairing the breaches made in the ſhip's hull, by ſhot-plugs, pieces of plank, and ſheet lead. The gunner and his aſſiſtants are buſied in repleniſhing the allotted number of charged cartridges, to ſupply the place of thoſe which have been expended, and in refitting whatever furniture of the cannon may have been damaged by the late action.

Such are the uſual proceſs and conſequences of an engagement between two ſhips of war, which may be conſidered as deſcriptive of a general battle between fleets or ſquadrons. The latter, however, involves a greater variety of incidents, and neceſſarily requires more comprehenſive ſkill and judgement in the commanding officer.

ON

ON CHASING*.

A VESSEL that chaſes another ought to have the advantage of ſailing. We ſhall therefore ſuppoſe this to be the caſe; becauſe, were the ſhip chaſed as good a ſailer as the chaſer, ſhe never could come up with her, if they manœuvred equally and at the ſame time. It is then uſeleſs to chaſe a ſhip over which you have not the ſuperiority in ſailing, unleſs it be found that ſhe does not know how to take the benefit of her equality.

To know if your ſhip ſails quicker than your adverſary, you muſt get on the ſame tack, under a preſs of ſail, and keep the ſame courſe with the veſſel you wiſh to chaſe, and ſet her exactly with a compaſs. If you ſail beſt, the chaſe will ſoon be drawn a point more aft; but, if ſhe has the advantage, you will in a ſhort time bring her a point farther forward: if you ſail equally, ſhe will remain on the point you ſet her at firſt.

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* This ſection upon "CHASING," and the ſubſequent one on "BOARDING," are likewiſe contained in an octavo volume, called "SEAMANSHIP, BOTH IN THEORY AND PRACTICE." They are, however, inſerted in this work, as they have a relation to TACTICS, as well as to Seamanſhip.

TO

TO CHASE A SHIP WHICH IS TO WINDWARD, AND TO JOIN HER IN THE SHORTEST METHOD.

When the chaſer is to leeward of the veſſel he means to purſue, he ought to run on the ſame tack as the enemy, till he brings her to bear exactly perpendicular to his courſe, if he has not however already paſſed that point: then tack and continue the ſecond board till he brings the chaſe again perpendicular to the direction on which he is ſtanding by the wind, and he muſt then heave about again; always continuing the ſame manœuvre, by tacking every time he brings the chaſe perpendicular to his courſe on either board. In this manner the chaſer will, by the ſuperiority only of his ſailing, join the other by the ſhorteſt method.

DEMONSTRATION.

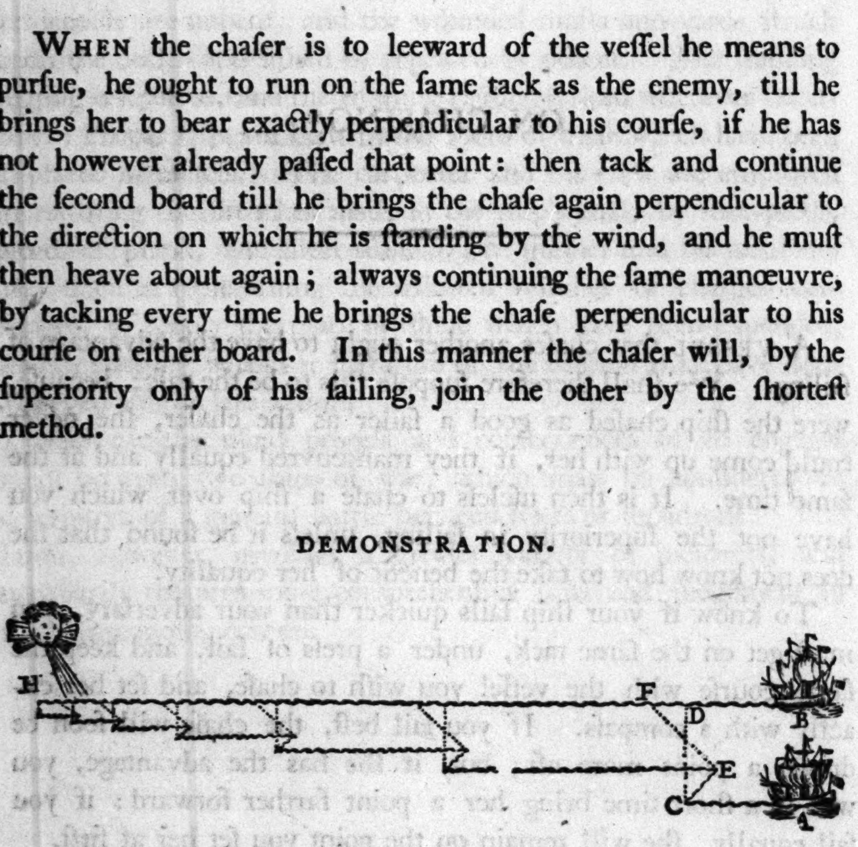

FIG. 101.

When the ſhip A, fig. 101, chaſes the ſhip B, which is three leagues to windward, A having one-fourth of advantage in ſailing, the chaſer is not to tack till he reaches the point C; becauſe then the ſhip B will be right on his beam at the point D. He then runs on the tack C E, till he brings the chaſe again perpendicular to his courſe at the point F. The ſhip A is to continue working thus every time ſhe brings the veſſel B right abreaſt of her, whether the chaſe continues on the ſame tack or not; and thus the chaſer will join the other at H, ſo that ſhe will be able neither to change her courſe nor fly from him.

You continue on the ſame tack as the enemy, when firſt ſeen, in order to loſe no time; becauſe you will always bring the ſhip you are in chaſe of right on your beam, when you have a ſuperiority of ſailing, whatever may be the tack ſhe is on, provided you are careful not to paſs that point; but if perchance you ſhould, you muſt get on the other tack with all poſſible diſpatch.

The chaſer heaves about as ſoon as the veſſel he is in purſuit of is on his beam; becauſe ſhe is, at this time, at the ſhorteſt poſſible diſtance, if he chaſes on the ſame tack and ſteers the ſame courſe with the veſſel chaſed. If the chaſer runs on a different tack from the veſſel chaſed, he is ſtill to tack when the latter is on his beam, becauſe the diſtance is the leaſt poſſible between them on the different boards they hold.

This mode is preferable to all others, it not only being the ſhorteſt, but becauſe you force the chaſe to fly from you cloſe upon a wind, preſſing her more and more from the leeward, by never paſſing the point at which the diſtance between the two veſſels, in plying to windward, is the ſhorteſt poſſible.

OBSERVATIONS FOR THE SHIP TO WINDWARD, WHICH IS CHASED.

The weather ſhip, which flies, will always be joined by the chaſer, ſince it is granted that ſhe does not ſail ſo well as the purſuing veſſel. It is therefore her advantage conſtantly to keep one courſe, without loſing time to heave about, as tacking cannot be ſo favourable to her as to her adverſary, whoſe ſailing is ſuperior.

If the chaſer ſhould miſtakingly ſtand on a long way, and tack in the wake of the chaſe, the beſt thing ſhe can do is to heave in ſtays, and paſs to windward of him on the other tack, unleſs you ſuppoſe your veſſel would have a ſuperiority by going large. If the chaſer perſiſts in tacking in the wake of the other ſhip, the chaſe will be very much prolonged.

TO CHASE A SHIP WHICH IS TO LEEWARD.

When to windward of a veſſel you wiſh to chaſe, keep the ſhip away, to cut her off; and, ſteering continually on that courſe, you come at laſt together at the point where the courſes run by the two veſſels interſect each other. This will be exactly executed by the chaſing ſhip, if, in the courſe ſhe has choſen, ſhe conſtantly keeps the chaſe on the ſame degree of the compaſs as at the beginning of the purſuit. This principle applies equally to all the courſes which the retreating ſhip ſteers; for over-taking can only be obtained by keeping on a ſtraight line, which is the ſhorteſt poſſible that can be drawn between any two points.

If you take another courſe than that which keeps you in the ſame point of bearing you were in with reſpect to the veſſel purſued, at the beginning of the chaſe, you would fail, by being either too far a-head or too far a-ſtern; that is to ſay, if the chaſer keeps his wind too cloſe, he will be too much a-head, and conſequently prolong the chaſe; and, if he keeps too much away, he will be too far a-ſtern. Theſe are the only two conſiderations to be made for the performance of this manœuvre; conſiderations which are eaſily obſerved, and corrected with an azimuth compaſs; for, when you ſee that at the end of a certain time you bring the chaſe more aft than her firſt point of bearing, it is evident you keep your wind too much; if, on the contrary, you draw her forward, it is a proof that you keep too much away. Theſe errors are eaſily corrected, by ſteering, for the firſt caſe, ſo as to ſee that the chaſe is always kept exactly on the ſame degree of the compaſs; and, for the ſecond, you keep your wind a little more, till you ſee that you reſt on the ſame point of bearing with reſpect to one another. Then, it is evident, you chaſe by the ſhorteſt and moſt certain method, ſince you reach the chaſe, by running on a ſtraight line.

OBSERVATIONS FOR THE SHIP TO LEEWARD, WHICH IS CHASED.

SHE ought to run on the courſe that will carry her moſt immediately from the chaſer. Some veſſels have more advantage in going large than others; ſome with the wind right aft; and others, again, are to be found which go beſt cloſe-hauled. So that attention ſhould be paid to the known qualities of a ſhip, in order to take the moſt advantageous and convenient directions capable to effect a retreat. It is, however, nearly certain, that if the chaſe does not ſail at leaſt at an equal rate with the chaſer, whatever manœuvre ſhe may practiſe, ſhe will at length be overtaken by a ſkilful chaſer adhering to principles.

OF BOARDING.

Boarding is the art of approaching the ſhip of an enemy ſo near, that you can eaſily, and in ſpite of him, throw on board the grapplings, which are fixed on the lower yard-arms, at the fore-caſtle, gangways, &c. for the purpoſe of being thrown into the enemy's ſhip, as ſoon as along-ſide, in order to confine the veſſels together, and give the people an opportunity of getting on board, to carry the adverſe ſhip ſword in hand.

TO BOARD TO WINDWARD, OR TO AVOID BEING BOARDED.

If it be deſired to board a ſhip which keeps her wind under an eaſy ſail, or that does not ſhorten ſail, but over which the boarding veſſel has the advantage of ſailing; ſhe muſt get on the weather-quarter of the ſhip ſhe means to board, within half a piſtol-ſhot. She ſhould then begin the action, and continue it with vivacity, to cover her manœuvre by the ſmoke of the cannon and muſquetry of both ſhips; then, under the cover of this cloud, let her make more ſail if ſhe has not way enough, in order to augment the velocity of the ſhip, and the rapidity of her movements, that ſhe may more readily lay on board her enemy, on the weather ſide, either exactly a-breaſt, or a little abaſt. This is very eaſily executed, by edging down ſuddenly upon her; ſo, however, as not to be raked by the enemy's fire. The ſhip boarded by this manœuvre can hardly ſuſpect the deſign but at the moment when, or very little before, the grapnels will be on board of her. In this ſituation the boarded veſſel has but one doubtful expedient to try, and which even will be of no ſervice if the boarder obſerves her well. For the moment ſhe braces ſharp a-back her head-ſails, to cauſe the ſhip's falling off, and ſquares thoſe aft to give her ſternway, the boarder has only to perform briſkly the ſame manœuvre, and they will then be both as near for boarding as before; provided the boarding-ſhip feels quickly the impulſe of her ſails and helm, which ought to be put a-weather, and kept ſo till the ſhip's headway ceaſes, when it is to be put a-lee, to aſſiſt her in falling off, by manœuvring as in boxhauling, in order to board the enemy to leeward; for the boarder ought to be on the quarter of the other; ſince, at the moment the two ſhips were right before the wind, ſhe who was directly to windward, and wiſhed to board, had only to continue her movement of rotation, and render her velocity equal to that of her adverſary, by ſhortening ſail in order not to paſs her. If, therefore, the circular motion is kept up by the boarder, which at firſt cauſed him to fall off, and now brings him to the wind on the other tack, he will join the enemy to leeward; for, it is evident that, if this motion of turning be more rapid than that of the ſhip which wiſhes to avoid boarding, the boarder will cloſe her before ſhe can range to the wind on the other tack, ſince the boarder comes round with greater celerity. However, if the ſhip which fears boarding was preſſed thus cloſely, ſhe could make no other attempt than to throw once more all her ſails to the maſt, by bracing them only perpendicular to the keel to give her ſternway, and putting the helm a-weather, to keep her to the wind, as ſoon as her headway ceaſes; obſerving that, ſhe being to windward, this manœuvre may cauſe her to drive on the boarder, as he is then watching for her under her lee. As there is no other reſource, neceſſity obliges her to this expedient; becauſe, if the ſhip which is attacked could go a-ſtern with ſufficient velocity, ſhe might let the boarder paſs a-head, veer under his ſtern, and rake him, if he is not as quick as the other to foreſee this manœuvre, and as nimble in manœuvring in the ſame manner as the enemy's ſhip: becauſe, the great velocity with which he comes to the wind and goes a-head, (his ſails being ſtill full) puts him in this bad ſituation, which may prevent his perſiſting in the inclination

nation of boarding. It is, however, very clear that the boarder will attain his purpoſe, if he takes care to throw all his ſails a-back at the ſame time as the ſhip to windward; becauſe the attacked ſhip dropping to leeward, and having ſternway firſt, approaches a little the boarder, who has ſtill preſerved his poſition on the quarter, and longer kept his luff, by having gone a-ſtern ſomewhat later than the weather ſhip. It muſt be farther obſerved, that when the two ſhips are right before the wind, if the veſſel which fears boarding moves quicker to the wind than the one which attacks, ſhe will avoid it, as the retreating ſhip will be cloſe to the wind before the other, and able to get a-head of her by making all ſail to keep her wind, or to heave in ſtays and get upon the other tack. But it muſt be conſidered that this laſt movement is diſadvantageous; as, by ſo doing, it will preſent the ſtern to a ſhip, which no doubt will take advantage of that ſituation, and rake her; which might be more deſtructive than a well-oppoſed attack by boarding.

There is, however, no doubt that if the ſhip inclined to board ſails better than the other, it will always be in her power to execute that deſign, if ſhe is manœuvred as the ſhip which flies.

TO BOARD TO LEEWARD, WHEN CLOSE TO THE WIND, OR TO AVOID BEING BOARDED.

In order to execute this manœuvre, the boarder is to come within piſtol-ſhot, cloſe in the wake, or, at moſt, to the weather-quarter, of the ſhip he means to attack; taking care to continue ſteering ſo as not to be raked by any of the guns which belong to the quarter he ſtands on. Then, to come up with his adverſary, he muſt edge away a little, and range round aft, ſo cloſe upon the enemy's lee-quarter, that his cat-head may almoſt touch her quarter-gallery. Now, when you have ſhot ſufficiently a-head, your ſhip being parallel to your adverſary's, ſo as to bring your forecaſtle a-breaſt of your enemy's mainmaſt, the mizen and mizen-ſtayſail ſheets are to be hauled well aft, the helm put hard a-lee, and the head-ſheets let fly; then your ſhip, coming rapidly to the wind, ſhivers her ſails, and cloſes the oppoſing veſſel ſide to ſide. This manœuvre is infallible when you have the advantage of ſailing, provided very great attention is paid to it. But great attention is neceſſary; becauſe, if at this moment the weather-ſhip, which wiſhes to avoid the boarding, either ſets her courſes, or lays all thoſe flat-a-back which ſhe had ſet, ſhe may perchance break the grapnels if you have neglected to trim your ſails in the ſame manner as hers: for, by making more ſail, if the wind be a little freſh, ſhe will ſhoot a-head through the water, and drag the boarder with ſuch force as to break the chains or hawſers by which the two ſhips are confined together. By laying all flat to the maſt, the boarded veſſel is ſtill more likely to ſucceed, ſince the ſails of one ſhip will be full, while thoſe of the other are a-back.

This mode of boarding may, as ſhewn before, be anticipated and avoided, if the boarder does not pay the ſtricteſt attention to his own as well as to his adverſary's manœuvres: but it may be ſtill more readily avoided, if the laſt-mentioned veſſel braces her head-ſails ſharp a-back, ſetting only, if neceſſary, the fore-ſail, at the ſame inſtant laying to the maſt or ſhivering (according to the neceſſity for more or leſs ſternway) all thoſe which are abaft, and putting the helm hard a-lee. All this is to be executed when the boarder is ſtill about a ſhip's length (more or leſs) a-ſtern of the other veſſel. The quickneſs of this evolution, and the rapid veering of the weather-ſhip, may bring the boarding veſſel, which is a little to leeward or a-ſtern of the other, into the moſt dangerous ſituation, if ſhe does not manœuvre in the ſame manner and with equal celerity; as the boarder's ſails, being full, keep up his velocity, and may, before he can veer, engage his bowſprit in the main-ſhrouds of the enemy, who pays ſhort round on her head.

This terrible and dangerous ſituation is infinitely to be dreaded; and it is of the higheſt importance to pay the ſtricteſt attention to your own manœuvres, and to thoſe of your opponent, which you are to endeavour to foreſee and avoid as much as poſſible.

It is eaſy to conceive, that, if you wiſh to board a ſhip, and to engage the enemy's bowſprit in your main-ſhrouds, you need only get a little to windward of her, and about one or two ſhips lengths a-head, more or leſs, as (from the knowledge you have of the celerity of your ſhip's movements) may be judged ſufficient; then brace ſharp a-back the head-ſails, ſhiver the after

ones,

ones, or lay them flat to the maſt, with the helm a-lee. This manœuvre, well executed, and covered by a briſk fire, will commonly ſucceed: but care muſt be taken not to come round too ſoon, but to range very cloſe to your adverſary; becauſe, if you ſhould not be a-head enough of him, you might fail in boarding, by paying too ſhort round, and then you would infallibly get your bowſprit foul of his fore-ſhrouds, which would be highly diſadvantageous.

If you ſhould find yourſelf too far a-head, the deſign will be fruſtrated, by your paſſing under the bowſprit of the enemy, who will however be thereby expoſed to be raked at his head, if he does not manœuvre in the ſame manner and with equal ſwiftneſs as the boarding-veſſel, which has the great advantage of priority.

It is abſolutely neceſſary to range very cloſe to the ſhip, whoſe bowſprit you wiſh to engage in your rigging; becauſe, if you attempted to execute this at only a ſhip's length large, and to windward of your opponent, he has only, the inſtant he perceives your deſign, to put the helm hard a-lee and heave-in ſtays, if he does not chooſe to act in the ſame manner as you do. If this laſt method is properly executed, the two ſhips can only range very near each other and exchange their broadſides, and the lee-ſhip will immediately gain the wind of her adverſary. Therefore, to execute this manœuvre well, the veſſels muſt be nearly yard-arm and yard-arm.

If the boarder be at a certain diſtance aft on the weather-quarter, the ſhip, wiſhing to avoid boarding, muſt heave-in ſtays, as ſoon as the other veſſel is in the act of veering, in order to cloſe her to leeward. By this manœuvre they will find themſelves head to head, ſo that they may fire reciprocally their broadſides, paſſing in oppoſite directions, and the lee-ſhip will get to windward.

TO BOARD WITH THE WIND LARGE.

If two ſhips engage with the wind large, the boarding-veſſel ſhould keep as cloſe as poſſible on the lee-quarter of the ſhip ſhe means to attack thus, that ſhe may execute this deſign, as has been ſhewn before, by coming rapidly to the wind, and being careful not to paſs a-head of her opponent.

The weather-ſhip, to avoid being boarded, muſt act on her part as was directed in the preceding article, according to circumſtances.

A ſhip may alſo be boarded on the weather-ſide, by conforming to what has been ſaid of boarding to windward.

When two veſſels are engaged, with the wind right aſt, the ſhip, deſirous of boarding, ought to drop a-ſtern of the enemy, in order to run up cloſe along-ſide of him, if the boarder has the advantage of ſailing; for, as ſhe then advances towards her adverſary, her adverſary can only endeavour to range rapidly to the wind on the other tack, as ſoon as the bowſprit of the boarder is a-breaſt of her ſtern, and thus gain the wind, in order to be in a ſituation to extricate herſelf more eaſily by a good manœuvre.

The boarding veſſel ſhould be permitted to come a-breaſt of the ſtern of her adverſary before ſhe hauls her wind; becauſe, if ſhe were to do this ſooner, the ſhip a-ſtern, at a ſmall diſtance, would board her perfectly well, even if they ſail equally ſwift, ſince the boarder would be to windward, would run large longer than the other, would range more ſlowly to the wind, and continue to ſtem a-head of the flying ſhip. What makes this more evident is, that the boarder coming from windward preſerves longer his velocity, trimming his ſails only as the ſhip comes to the wind, and cuts the courſe of his adverſary with a line leſs curved than that deſcribed by the retreating ſhip.

If, by coming too ſoon or too faſt to the wind, the boarder choſe to abandon his deſign, he might do ſo by veering a few points on the other tack, and ſhortening ſail; ſo that the retreating ſhip will ſhew her ſtern, and the boarder can then rake her by paſſing under her ſtern.

When you attack a ſhip cloſely to leeward, you may keep away a little, when you are a-breaſt of her, ſeeming to yield under her fire. If this ſhould induce the oppoſing ſhip to veer, in order to keep you more under her guns, you have only to heave rapidly to the wind, by putting the helm a-lee, trimming all ſharp abaft, and ſuppreſſing the effect of the head ſails; all of which is to be done in the ſame inſtant you perceive the enemy bears down upon you. The quickneſs of this manœuvre, and the priority of the movement you gain thus on your enemy, will ſoon cloſe the two ſhips; and if proper attention be paid, and the diſtance well meaſured, it may happen that the enemy's bowſprit will be entangled in your fore or main rigging; which would be a moſt advantageous thing in your attempt to board. But much confidence muſt not be placed in this, as you do not frequently meet with perſons ſo eaſily duped: it may even happen that you will no longer be able to attempt the boarding, if the weather ſhip, inſtead of bearing away, plied to windward more and more; for this feint manœuvre may take you too far off to leeward of your adverſary. If you ſhould happen to be a ſhip's length to leeward, and about the ſame diſtance a-head of the veſſel with which you are engaged, you may, under cover of a heavy fire, heave in ſtays. By this manœuvre you come right athwart the enemy's hawſe, rake him fore and aft, and board him, his bowſprit being right over your gangway: nor can he poſſibly avoid your broadſide; for, if he heave all a-back and make a-ſtern board, which is his only reſource, he may avoid being boarded, but will always be in a very bad ſituation.

BOARDING AT AN ANCHOR.

If it be intended to board a ſhip which is at an anchor, riding head to wind, it muſt be executed under ſail; for if you cannot approach the enemy but by towing yourſelf a-head, you will never be able to board her againſt her will, ſince it will always be in her power to annoy the boats which are laying out the tow lines. It ought not therefore to be attempted, unleſs you are underway. To perform this with ſucceſs, you muſt be ſufficiently to windward to approach her by a little falling-off, without expoſing your ſtern to her fire, which ſhe could play on you with great advantage in this ſituation. Suppoſing, therefore, the boarder to be thus to windward, ſo as to be able to approach his opponent at anchor, the aſſailant ought to ſtop his headway, by taking a-back his mizen topſail and fore ſtayſail, and, when about a ſhip's length a-head of the veſſel he means to board, let go an anchor; then work in ſuch a manner that, as ſoon as the mizen topſail is taken a-back, the mizen cloſe aft, the topſails clued up, and the fore topmaſt ſtayſail hauled down, he may come head to wind, and veer away cable till, by falling off, he comes board and board with his opponent, who is ſtill riding at her moorings, and who at that inſtant ought alſo to be raked by the boarder.

The boarding ſhip has no other way of manœuvering but this; becauſe, as ſoon as the anchor is gone, the ſhip acquires ſternway, and when the cable is checked ſhe comes head to wind, in which ſhe is greatly aſſiſted by the mizen and mizen topſail, which impel her ſtern to leeward, till the wind is right in the direction of the keel; and, as the cable is veered away till exactly alongſide the ſhip at anchor, her own anchor being right a-head of the veſſel ſhe means to board, it follows that, as ſoon as the boarding ſhip comes head to wind, ſhe is in a proper ſituation to throw her grapplings, and ſend her crew on board of the other, if they are the ſtrongeſt.

The ſhip at anchor ſhould never wait for the enemy in that ſituation, which is always diſadvantageous, and there is always much greater probability of getting clear when underway. But, if, for ſome unforeſeen cauſe, you are obliged to continue at anchor, you are to take advantage of the moment when the ſhip which attacks lets go her anchor, to cut the cable by which you ride. By this manœuvre you fall athwart, rake your adverſary, avoid being boarded, and bring up with your lee anchor. Beſides, if time will admit before the attack, you ſhould not neglect to caſt two ſprings out, one on each ſide of the cable by which the veſſel rides, if you have not had time before to lay out two anchors, in order not to be ſurprized, in caſe the ſhip which attacks has it in her power to paſs on either ſide of you: and, when you perceive for which ſide ſhe is determined, you heave on the ſpring which is on the ſame ſide ſhe has let go her anchor if ſhe be a-head, and on the oppoſite if ſhe be a-ſtern, veering out at the ſame time the other ſpring and cable, till you bring the aſſailant right a-breaſt of you. Then you may rake him at pleaſure, as he has no way of getting out of this dangerous ſituation. His only courſe would be to prevent this danger, by having a ſpring alſo; and, under cover of a briſk fire, veer upon that ſpring and cable to lay his enemy handſomely on board. But if he has neglected this precaution, he muſt cut his cable, and drop on board of the ſhip to leeward; who, on the other hand, has no way to avoid being boarded, but by cutting, to get underway, or to run on ſhore.

It is always eaſy to board a ſhip at anchor, when the wind will allow you to approach her under ſail; and the beſt way to proceed, is to run her along-ſide, or to bring-to to windward of the ſhip you wiſh to attack, keeping her exactly to leeward of you; then drift on board of her, by trimming your ſails in ſuch a manner, as to keep as near as poſſible, your broadſide oppoſite to that of the adverſe ſhip. Annoying her with your guns till you can cloſe her, and your conſtant cannonading may prevent her fire being ſo well ſerved as it might otherwiſe be.

When you are underway, and purpoſe to board a veſſel moored, let go an anchor at the time of boarding; for, if the ſhip attacked, ſhould at this moment cut her cables to drive on ſhore, this would prevent your running a-ground together.

NAVAL TACTICS.

PART II.

HAVING, in the preceding part of this ſubject, ſhewn the principles upon which every ſyſtem of Tactics muſt, more or leſs, eſtabliſh itſelf; we now come to give the deviations from that ſyſtem, which have been propoſed by M. Bourdé de Villehuet, a French officer and maritime writer of eſtabliſhed reputation.

That gentleman, not wiſhing to alter the cuſtomary orders of BATTLE and RETREAT, only propoſed that a fleet ſhould be, for its common order of ſailing, in what he calls the ORDER OF CONVOY. This order (ſays M. Bourdé de Villehuet) is the moſt ſimple, and the only one a fleet ought to be in at all times; becauſe, firſt, it is eaſily preſerved; ſecondly, it cannot be diſcompoſed in twenty out of the thirty-two ſhifts of wind, and is eaſily re-formed in the twelve other changes; and, finally, it is eaſy to paſs from that order to thoſe proper for the ſecurity of a fleet, in all poſſible caſes, either to preſerve one's ſelf, to attack, or to defend.

THE

THE ORDER OF CONVOY IN ONE LINE

Is that which a fleet holds in making a ſtraight courſe, *the ſhips being all in the wake of one another, ſteering on the ſame point of the compaſs, and forming a right line.* If the fleet be numerous, they may be divided into three columns, which are to be ranged parallel to each other, that of the admiral occupying the middle, and ſteering all three the ſame courſe. Thus it may be obſerved that the order of convoy *diſregards* a line of bearing; and this is its eſſential difference from the firſt and fifth orders of ſailing, mentioned in the preceding part of this volume, pages 7 and 10.

TO FORM THE ORDER OF CONVOY IN ONE LINE.

WHEN the fleet is in no particular order of ſailing, the leading ſhip is to veer ſufficiently for the others to get in her wake, and ſteer the ſame courſe ſhe holds. Generally, it is the commanding officer who takes this poſt, when the ſquadron is not numerous.

That the order may be the ſooner formed, every ſhip of the fleet or ſquadron ſhall chaſe at the ſame time that which is to be a-head of her in the line, taking care to manœuvre in ſuch a manner as to avoid running foul of thoſe which croſs her fore-foot in endeavouring to join their leaders in the line. Therefore, ſuch as are to leeward of others ſhall take care not to perſiſt obſtinately in weathering them; but, they muſt back, or go a-ſtern if neceſſary, by keeping away a little more. Such as ſhall already be in the column, and are to be more a-ſtern, muſt bring to till they are in their poſts, or ſtand on under a very eaſy ſail, that each ſhip may contribute to the celerity of forming the order.

TO

TO FORM THE ORDER OF CONVOY IN THREE COLUMNS.

The leaders of each of the three diviſions are to place themſelves in a line right a-breaſt one of another: and they muſt take care to keep a proper diſtance between themſelves, according to the length of the columns, which will accelerate the progreſs of the diſpoſition. Then every ſhip of each particular ſquadron, chaſing that which is to be next a-head of her, will come and take their ſtations a-ſtern of one another at the rear of the leading ſhip of the diviſion, and ſteer directly after her.

This order, which in the practice is very eaſily held, has the advantage of keeping the fleet cloſe and connected, without cauſing any delay in its progreſs. The beſt ſailors can regulate their velocity by that of thoſe which are inferior to them in ſailing, and, theſe on the other hand may, with a little attention, carry as much ſail as the weather will admit, by which means all imaginable courſes may, without breaking, be ſteered.

TO CHANGE FROM THE ORDER OF CONVOY, IN ONE LINE, TO THE ORDER OF BATTLE, CONTINUING ON THE SAME TACK.

The headmoſt ſhip is to haul cloſe by the wind on the ſame tack, and the reſt of the fleet are to make the ſame movement in ſucceſſion, obſerving the proper diſtances from each other.

TO CHANGE FROM THE ORDER OF CONVOY, IN ONE LINE, TO THAT OF BATTLE ON THE OTHER TACK.

The headmoſt ſhip is to veer and to come to the wind on the other tack; then all the veſſels of the fleet are to perform the ſame manœuvre in ſucceſſion.

Another method.---After having formed the order of battle on the ſame tack, as has been ſhewn before, the van ſhip is to tack; and all the ſhips of the fleet are to follow in ſucceſſion, to form the order of battle on the other tack.

Another method.---If you are ſteering a courſe in the order of convoy, four points large, the order of battle on the other tack may be formed at once, by all the ſhips veering or ſtaying together.

TO CHANGE FROM THE ORDER OF CONVOY, IN THREE COLUMNS, TO THE ORDER OF BATTLE ON THE SAME TACK.

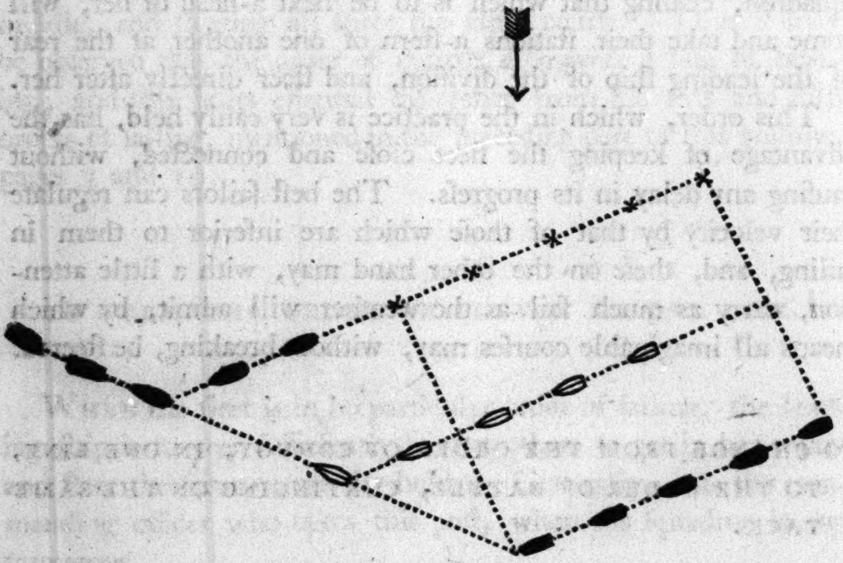

FIG. 102.

If the fleet has the wind on the beam, or between close hauled and eight points large, the ſhips of the lee column are all to bring to at the ſame time. The other two columns ſtand on. When the leader of the weather column brings the lee leader to bear on the cloſe-hauled line, he tacks, and is followed in ſucceſſion. The center column does the ſame. But, as the weather column has a greater diſtance to run, it muſt make all poſſible ſail, while the center column need not make ſo much; becauſe the center column is not to begin to haul its wind till the center ſhip of the weather column has got on the cloſe-hauled line.

The lee column is to follow in the ſame manner, when the center ſhip of the center column is cloſe by the wind.

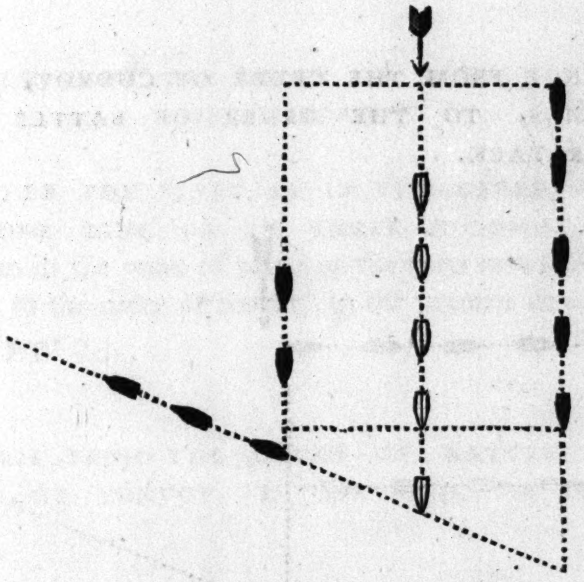

FIG. 103.

IF THE WIND BE MORE THAN EIGHT POINTS, OR RIGHT AFT, the column which is to form the van guard in the order of battle is inſtantly to haul its wind in ſucceſſion, with all ſails ſet; while the two others, continuing their courſe, will put themſelves ſucceſſively by the wind, on the cloſe-hauled line upon which the order of battle is to be formed, and conſequently in the wake of the weather column.

IF THE COLUMNS BE CLOSE ON A WIND, it then becomes a caſe within the uſual fifth order of ſailing, treated of in the firſt part, pages 44 to 50.

TO CHANGE FROM THE ORDER OF CONVOY, IN THREE COLUMNS, TO THE ORDER OF BATTLE ON THE OTHER TACK.

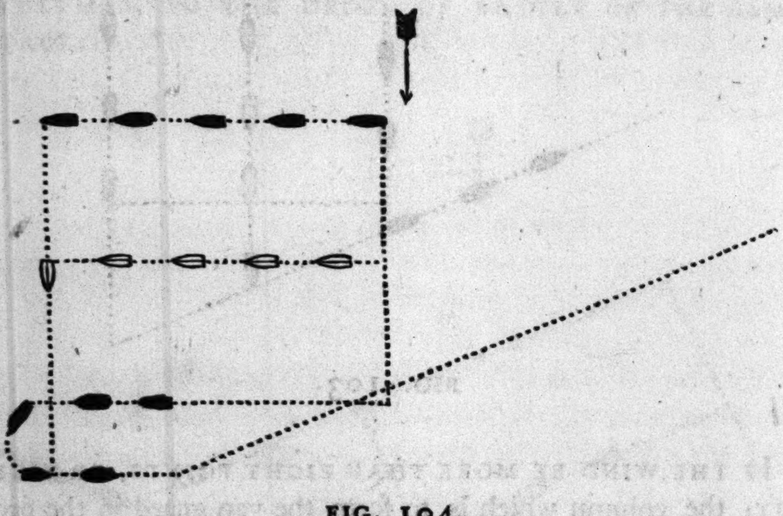

FIG. 104.

THE fleet might be put firſt in order of battle, on the ſame tack; then, making the ſhips tack in ſucceſſion, they would be in order of battle on the other tack. But, as this method might be too long, the time of evolution may be diminiſhed, by making the two weather columns bring to, WHEN SAILING BETWEEN CLOSE-HAULED AND EIGHT POINTS LARGE, while the ſhips of the lee column veer in ſucceſſion and keep their wind on the other tack. The center ſhip of the lee column having veered, the center column is to fill, the leader of which bears away, running exactly with the wind right aft, and is followed in ſucceſſion, by the ſhips of his diviſion, till they are in the wake of the lee column, then on the other tack; when the leader of the center column hauls by the wind, the ſhips of his diviſion hauling in ſucceſſion. When the center ſhip of the center column has bore away, the weather ſquadron manœuvres in the ſame manner, and thereby completes the order of battle.

TO CHANGE FROM THE ORDER OF CONVOY TO THAT OF RETREAT.

WHETHER THE FLEET BE IN THE ORDER OF CONVOY IN ONE LINE OR IN THREE COLUMNS, they are firſt to form in the order of battle on the ſame tack; thence they are to paſs to the order of retreat, in the manner directed in the firſt part, page 73.

TO CHANGE FROM THE ORDER OF BATTLE TO THE ORDER OF CONVOY, IN ONE LINE, ON THE SAME TACK.

THE van ſhip is to bear away as far as the intended courſe, and the reſt are to execute the ſame manœuvre in ſucceſſion; ſo that, when the rear ſhip ſhall have made the ſame movement, the evolution will be compleated, and the order of convoy formed on the ſame tack.

TO CHANGE FROM THE ORDER OF BATTLE TO THE ORDER OF CONVOY, IN ONE LINE, ON THE OTHER TACK.

THE van ſhip is to tack and run one point large, till ſhe can bear away, under the ſtern of the rear ſhip, as far as the courſe which the fleet is to hold. All the ſhips are to perform the ſame manœuvre at the ſame points, to change the order and get upon the other tack.

The van ſhip, inſtead of tacking, may veer and run a little time before the wind, before getting on the other tack: then ſhe will heave to the wind on the fleet's courſe, without fear of breaking through the rear. This movement is ſhorter, and to be preferred, ſince the order of convoy is never held to keep by the wind.

TO CHANGE FROM THE ORDER OF BATTLE TO THE ORDER OF CONVOY, IN THREE COLUMNS, ON THE SAME TACK.

THE three leaders of the columns are to bear away together, and ſteer on the intended courſe; then the ſhips of each ſquadron are to execute the ſame manœuvre in ſucceſſion, following the ſame direction; ſo that the three rear ſhips, veering at the ſame time in the wake of their reſpective columns, will compleat the evolution.

The columns will find themſelves too diſtant from each other; but, as there is nothing which diſturbs them, and they have the wind right aft or very large, it will be eaſy for them to cloſe as much as may be neceſſary.

TO CHANGE FROM THE LINE OF BATTLE TO THE ORDER OF CONVOY, IN THREE COLUMNS, ON THE OTHER TACK.

THE three leading ſhips of the columns are to heave in ſtays at the ſame time, and bear away on the perpendicular of the wind on the other tack: then the ſhips of each ſquadron are to perform the ſame manœuvre in ſucceſſion; and, when the rear ſhips ſhall have turned about and be in a line with their reſpective columns, and the leaders of the weather diviſions ſhall, by crowding all the ſails, have come a-breaſt of the van ſhip of the lee ſquadron, the evolution will be compleated.

If the fleet is to ſteer more large than the perpendicular to the wind, it will be eaſily formed, by making the leaders and their columns bear away in ſucceſſion, then putting afterwards the columns at the neceſſary diſtance from each other.

TO

TO CHANGE FROM THE ORDER OF RETREAT TO THE ORDER OF CONVOY, IN ONE LINE.

One of the wings is to haul together cloſe by the wind, on the ſame tack as the line of bearing on which they are formed, in order to bear away in ſucceſſion at the point of the angle, in the wake of the other wing; the ſhips of which are to run with the wind four points large, on their line of bearing; and, when the laſt ſhip of the weather wing is in the wake of her line, the order of convoy is formed.

If, neceſſary, to ſail more large, the van ſhip and the reſt of the fleet may bear away more, in ſucceſſion: or ſhould you not wiſh to keep away ſo much, the ſame ſhips may keep their wind more, and follow the van ſhip in ſucceſſion.

TO CHANGE FROM THE ORDER OF RETREAT TO THE ORDER OF CONVOY, IN THREE COLUMNS.

It is neceſſary firſt to form the order of battle, (as directed in page 76,) and to paſs from that to the order of convoy in three columns, as juſt before directed.

TO RESTORE THE ORDER OF CONVOY IN ONE LINE, WHEN THE WIND COMES A-HEAD MORE THAN CLOSE-HAULED.

It is eaſy to conceive that the order of convoy cannot be diſturbed by all the ſhifts of wind, as long as it is more abaft than the ſtarboard and larboard lines of bearing; becauſe the ſhips, ſteering large in the wake of each other, can eaſily maintain their poſts, having only their ſails to trim, whether the fleet be in one line or in ſeveral columns. But, if the wind draws more a-head than one of the lines above-mentioned, it is evident, the ſhips being obliged to veer, or pay off, all at the ſame time on the ſame tack, the order will be diſturbed. We ſhall now proceed to give the method to reſtore it on the ſame tack, when the fleet is in one line in the order of convoy. If we ſuppoſe the fleet ſteering large on the ſtarboard tack, and the wind come ſuddenly right a-head, which would immediately throw all the ſails flat a-back on their maſts, the van ſhip is to caſt inſtantly to port, and bring to on the ſtarboard tack, while all the reſt of the fleet are to box off, all together and at the ſame time, to ſtarboard, and make all ſail, in order to come with celerity cloſe by the wind on the larboard tack, and get into the wake of the van ſhip, then to tack and take their ſtations ſucceſſively under an eaſy ſail, and bringing to likewiſe till the rear ſhip, which has a good way to run, be in her poſt.

Should you wiſh to get on the other tack, then the van ſhip is to caſt to ſtarboard, to bring to on the larboard tack by the wind; then the reſt of the fleet would caſt the other way, to tack afterwards ſucceſſively in the wake of the ſhip which lies to, and take their ſtation there, as has been ſaid before; with this difference, that, after the reſtoring of the order, you would find yourſelf on the larboard tack.

If the ſudden ſhift of wind be not quite a-head, or if it be ſix points, or between ſix and twelve, the van ſhip is, nevertheleſs, to bring to on one tack, while the reſt of the fleet, caſting on the ſtarboard, make all ſail to gain her wake, to tack there, and thus regain their ſtations.

The order of convoy may be reſtored by a ſtill ſhorter and more ſimple method, but which will cauſe the fleet to drop to leeward more than the former does. In the ſame caſe as the laſt, when the wind comes right a-head, the whole fleet is to pay off on the ſame tack, if the ſhips are all on one line, and the rear ſhip muſt bring to, while the reſt of the ſhips, running five points large (if the wind has ſhifted ſix points beyond the direction of cloſe-hauled), will come and bring to ſucceſſively a-head of the rear ſhip on that line of bearing which they are to hold, obſerving that ſuch ſhips are to carry a greater and proportionable preſs of ſail, as, being nearer the van ſhip, have conſequently more way to run before they can regain their poſts.

To know how many points or degrees the weather ſhips have to run large to get into their ſtations, add eight points or ninety degrees to the half of the points or degrees the wind has ſhifted beyond one of the two lines of bearing: and, in regaining your poſts, you will have the quantity of points by which you differ from the firſt courſe you ſteered. For example, if you were ſteering eaſt, and the wind ſhift to that point of the compaſs, it will have ſhifted ſix points beyond one of the directions cloſe-hauled, which you would have been able to preſerve on the ſame tack; ſo that, adding half of ſix points to eight, you will have eleven points difference from the E courſe which you ſteered before, and you will conſequently ſail N W by N on one tack, to reſtore the order, or S W by S on the other, to gain your poſts cloſe by the wind in a line with the rear ſhip; which, bearing W before the ſhift of wind, ought now to bear S S W, if cloſe to the wind on the ſtarboard tack, or N N W if poſted upon a a bow-and-quarter line on the larboard tack. Therefore, to regain their ſtations in the line, the ſhips run five points large. Had the wind ſhifted four points only, it would have blown E S E; and the ſhips, taking their poſts on the ſtarboard tack, to the N E of the rear ſhip which is lying-to, would have ſteered N N W to fall into their ſtations, and reſtore the order of convoy on the ſame tack.

TO RESTORE THE ORDER OF CONVOY, IN THREE COLUMNS, WHEN DISTURBED BY A SUDDEN SHIFT OF WIND RIGHT A-HEAD.

WHEN the wind ſhifts on a ſudden right a-head, or between the two lines of bearing, the order of convoy is to be reſtored by the whole fleet caſting the ſame way all together, leaving the three rear ſhips of the columns lying-to, cloſe to the wind on the tack on which you purpoſe to continue cloſe-hauled; while the ſhips of the three columns running large all together on a courſe (to leeward of the firſt), which muſt always be determined by half the number of points or degrees the wind has ſhifted beyond the direction of cloſe-hauled, added to eight points or ninety degrees, will bear away with eaſe for their ſtations in the cloſe-hauled line of bearing, which they are to hold to the windward ſide of their rear ſhip; where they will arrive ſucceſſively, by carrying more ſail according as they may be nearer to the van, becauſe in that caſe they have a greater diſtance to run.

OF

OF THE CONVOY OF MERCHANT SHIPS, UNDER THE PROTECTION OF MEN OF WAR.

To take the requiſite care of a large fleet, there ſhould be in the convoy a number of frigates, which are to be diſtributed a-head, a-ſtern, and on the wings of the fleet, which is always to be kept in the order of convoy on three, four, five, or ſix columns, according to the number it may be compoſed of: ſome other frigates are alſo to be ſent on the look-out, in order to be informed of what paſſes at a certain diſtance, and warned in good time of the approach of the enemy.

If the frigates which are ſent to look out ſhould diſcover an enemy of ſuperior force, they will make it known by ſignal, and perhaps it may be thought adviſeable that they ſhould ſteer a different courſe from that of the fleet, in order to deceive the hoſtile ſhips in fight.

The men of war are to hold themſelves in the order of convoy a little a-head and to windward of the weather-column of the fleet; becauſe, in that poſition, they will be able, with promptitude, to attend wherever their preſence may be neceſſary. The frigates will repeat the ſignals from one to another with celerity and exactneſs, that their purport may, with all poſſible expedition, be made known to the commanding officer, who, on the other hand, muſt not neglect to have all ſuſpicious and neutral ſhips chaſed, and even ſtopped, by the frigates about him, and which are always to be ſupported by one or two line of battle ſhips, according to the exigency of circumſtances.

The degree of progreſs which the whole fleet will make will be regulated by that of the worſt-going ſhips, which, however, are to be abandoned when found to cauſe too great a loſs of time; for, ſometimes, it is better to riſk a ſmall loſs than to expoſe the whole by delay.

There will be placed between the columns, ſloops of war, and other ſwift-ſailing light veſſels, to maintain order, and keep the ſhips in their ſtations. Their particular buſineſs will be to get the tardy ſhips to make more ſail, and to oblige thoſe which may be out of their poſt to reſume it; in the evening they will give an account, to the frigates having charge of going the round, of thoſe which have not well manœuvred; and theſe will make their report to the commodore.

During the night the ſame order will be maintained, except with reſpect to the look-out frigates, which are to be called in within a certain diſtance of the fleet, and which are to be allowed lights as well as the reſt of the men of war. They are to be particularly careful to oblige all ſtraggling ſhips to return to the convoy, and to fire, without heſitating, on all ſtrange veſſels coming from the main ſea, in order to give the alarm. Every night they are to be ſupported on the wings by ſome line of battle ſhips.

NAVAL TACTICS.

PART III.

TACTICS OF THE BRITISH NAVY.

THE practice of the Britiſh Navy, in its tactical evolutions, has been deduced from thoſe principles of nautical movements which are to be found in the preceding part of this volume. But, as it cannot be otherwiſe than a matter of conſiderable deſire to know which of thoſe principles have been retained in **BRITISH TACTICS**, and which have been rejected, this third part of our ſubject is therefore appropriated to the practice of the Britiſh Navy alone. The many valuable regulations which the experience of our commanders has added to this branch of Naval Science, (all or the principal part of which, we truſt, are here inſerted) form the moſt natural, as well as the moſt uſeful, concluſion of theſe our labours.

Theſe regulations are accompanied with ſuch obſervations, as either the propriety or ſuppoſed inaccuracy of them have occaſioned in the mind of the editor; who begs leave to inſcribe the following diviſion of this volume to the GENIUS OF BRITAIN.

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OF MANŒUVRING in Orders of Sailing and Line of Battle.
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2. ———, van becoming rear, and rear the van.
3. ———, van becoming center, and center the van.
4. Forming on the weather ſquadron, the weather being van, and lee the rear.
5. ———, van becoming rear, and rear the van.
6. ———, van becoming center, and center the van.
7. Forming on the lee ſquadron, the weather being van, and lee the rear.
8. ———, van becoming rear, and rear the van.
9. ———, van becoming center, and center the van.
To change from order of ſailing by diviſions, to three ſquadrons.
———, to line of battle.

THE ORDERS OF SAILING IN THE BRITISH NAVY.

THE ORDER OF SAILING IN THREE SQUADRONS.

THIS order is, in its uſe, a combination of that which has been treated of before in page 10, called the FIFTH ORDER OF SAILING, and of that treated of in page 154, and there called the ORDER OF CONVOY. There are, however, ſeveral regulations to which it is ſubject in our navy, which it becomes neceſſary to mention.

The Admiral, or firſt in command, generally places himſelf a-head of the leading ſhip of the weather or ſtarboard ſquadron; but occaſionally varies this poſition, by leading one of the other ſquadrons.

WHEN SAILING FROM THE WIND, the ſecond in command keeps with his ſquadron to ſtarboard, the third in command with his ſquadron to port. The ſquadrons are kept exactly a-breaſt of each other, (as in figures 101 and 102, pages 140 and 156,) unleſs when ſignal is made for *altering courſe together*; the admiral occaſionally leading one of the ſquadrons.

WHEN SAILING BY THE WIND, on both tacks, the ſecond in command keeps his ſquadron to windward of the center; the third in command is to leeward. But, leſt accidents might ariſe by croſſing each other, particularly in the night, thoſe ſquadrons which happen to be to windward and to leeward, when the fleet hauls to the wind or upon ſudden changes of wind, keep thoſe ſtations till ordered otherwiſe by ſignal: and, in thick or ſtormy weather, ſuch ſtations are taken and kept by each ſhip, as will beſt ſuit the emergency. The leading and other ſhips of the ſquadrons bear, from each other reſpectively, *in the direction of the wind;* but the ſhip of the admiral, or firſt in command, is not to be regarded as a leading ſhip of either ſquadron, although he will probably be at the head of one of them. This poſition of the fleet is that of fig. 22, page 22, with the addition, only, of the admiral's ſhip being a-head of one of the ſquadrons.

DISTANCE OF THE SQUADRONS FROM EACH OTHER.

This diſtance is directed to be one mile and a half, or two miles. And the reaſon aſſigned is, that when TACKING IN SUCCESSION, the leading ſhips of the center and lee ſquadrons may paſs a-ſtern of the laſt ſhip in the ſquadron next to windward, continuing on the former tack. But the admiral, according to circumſtances, may have occaſion to order this diſtance to be ſhortened by ſignal.

The editor of this volume humbly preſumes, that the direction here given, is not ſo accurate as that in page 12; where a principle is laid down for regulating the diſtance between the ſquadrons, which principle is made to depend upon the *length* of each ſquadron: ſo that, if it be ſtrictly adhered to, there never can be a danger of interſecting the rear of the windward ſquadrons, when the fleet tacks in ſucceſſion. See this demonſtrated in pages 12 and 22; from which it will be evident, that, in ſmall fleets, one mile and a half might occaſion an unneceſſary diſtance between the ſquadrons, while, in very large fleets, two miles might be found a ſcarcely ſufficient interval.

DISTANCE BETWEEN THE SHIPS IN EACH SQUADRON.

Of theſe diſtances there are two ſorts, called THE CLOSE ORDER and the OPEN ORDER. By CLOSE ORDER, is meant from one and a half to two cables' length, or one quarter of a mile, according to the ſtate of the weather. By OPEN ORDER, an interval from three to four cables' length, or half a mile, is intended. As theſe diſtances are from time to time varied, the variations take place by ſignal from the admiral;

and thus the order is cloſed or opened. The diſtance, however, ſhould at all times be ſuch, as to allow ſufficient time for the ſeconds a-head to come to the wind (when tacking in ſucceſſion,) before the ſecond a-ſtern puts in ſtays; by which they will be enabled to fall into the wake of their leaders, when put about.

The following table for finding the diſtance between ſhips in the line, was moſt obligingly communicated to the publiſher of this work, by Vice-Admiral Waldegrave, at whoſe ſuggeſtion it is likewiſe printed ſeparately, on a card, for the convenience of all officers whoſe duty may require them to attend to the exact ſtation of their ſhip in the line.

A TABLE for finding the Diſtance of Ships in the Line.

Guns.	100		90		84		74 L		74 S		64		60		50	
Diſtance in Fathoms	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′
50	31	50½	30	45	35	43	31	13	30	16	27	50	26	45½	25	34½
100	16	21½	15	43½	16	49	16	7½	15	34½	14	4½	13	28½	12	5½
150	11	3½	10	37	11	25	10	48½	10	26	9	30	9	5½	8	39
200	8	18½	7	59	8	29½	8	7½	7	50	7	8	6	49½	6	29
250	6	39	6	23½	6	50	6	30	6	16½	5	42	5	27	5	11½
300	5	32½	5	18½	5	39¾	5	24½	5	13½	4	44½	4	32½	4	19½
400	4	9	3	59½	4	15	4	3½	3	55	3	34	3	24	3	14
500	3	19½	3	11½	3	24	3	15	3	8	2	51	2	44	2	36
600	2	46	2	39	2	50	2	42½	2	36½	2	22¼	2	17	2	10
700	2	22¼	2	17	2	25½	2	19	2	14	2	2	1	57	1	51
800	2	5	1	59	2	8	2	2	1	58½	1	46¾	1	42½	1	37½
900	1	51	1	46½	1	53½	1	48	1	44½	1	35	1	31	1	27
1 Mile	1	38	1	34	1	40½	1	36	1	32½	1	24	1	20½	1	17
2 Miles	0	49	0	47½	0	50½	0	48	0	46½	0	42	0	40	0	38
3 Miles	0	33	0	31½	0	33½	0	32	0	31	0	28	0	27	0	25½
4 Miles	0	24½	0	23½	0	25½	0	24	0	23¼	0	21	0	20¼	0	19¼

Obſerve, with a Hadley's quadrant well adjuſted, the angle made from the obſerver's eye to the main-top-gallant-maſt, hounds, or rigging of the next ſhip, by bringing the hounds or rigging down to the ſurface of the ſea: then refer to the table, and, under the rate of the ſhip obſerved in the upper column, take the angle which is neareſt to that on the quadrant, and on the ſame parallel in the left-hand column, will be found the diſtance of that ſhip's main-maſt from the obſerver in fathoms or miles.

When the angle obſerved does not agree with any in the table, and the correſponding diſtance is required, accurately proceed thus:

Suppoſe the obſerved angle of the rigging of the Princeſs Royal of 90 guns to be 8° 40′ required her diſtance?

The neareſt greater angle in the table is 10° 37′ anſwering to 150 fathoms diſtance

The neareſt leſſer angle is 7:59 ———— 200 ————

Their difference is 2:38 anſwering to 50 fath^{s}. difference.

Then, from 8° 40′ the obſerved angle,

Subtract 7:59 the neareſt leſſer angle,

Leaving 0:41 difference.

Then proceed thus:

If 2° 38′ is equal to 50 fath^{s}. what is 0° 41′ equal to?

60 — 50

158′ — 158′)2050′(13 fathoms. Anſwer,

158

470

474

Therefore, deducting 13 fathoms from 200 fathoms, will give the diſtance required, 187 fathoms.

REMARKS.

REMARKS.

The ſhips are ſuppoſed to have ſix months ſtores on board, and the nautical mile to contain 1015 fathoms, 60 of which make 1 degree of the meridian. In computing the table, the obſerver's eye hath been ſuppoſed to be elevated 30 feet above the ſurface of the ſea, which anſwers to the gangways of three decked ſhips, or the poop of a ſhip of 74 guns.

When the line of battle a-head is formed in cloſe order, it muſt not be forgotten, that the diſtance between the obſerver and the obſerved ſhip's main-maſt, found by the table, may be very different from that which is between the tafrail of the one, and the jib-boom-end of the other; it is alſo evident, that when the obſerver is on the gangway, the diſtance found will be nearly equal to that which is between main-maſt and main-maſt; but ſhould he be on the poop, it will be almoſt half the length of his ſhip leſs. When the diſtance of the ſhip obſerved is conſiderable, and the main-top-gallant-ſail is hoiſted, the yard may be very ſafely uſed, in obſerving the angle inſtead of the rigging: and it is for this reaſon, as well as for the arbitrary lengths of the main-top-gallant-maſt-heads, that the hounds have been uſed. It may be proper to obſerve, that the ſhips having been ſuppoſed to have ſix months ſtores continually on board, will, in ſome meaſure, compenſate for the inclination of the maſt, when they may be of a lighter draught of water.

THE

THE ORDER OF SAILING BY DIVISIONS.

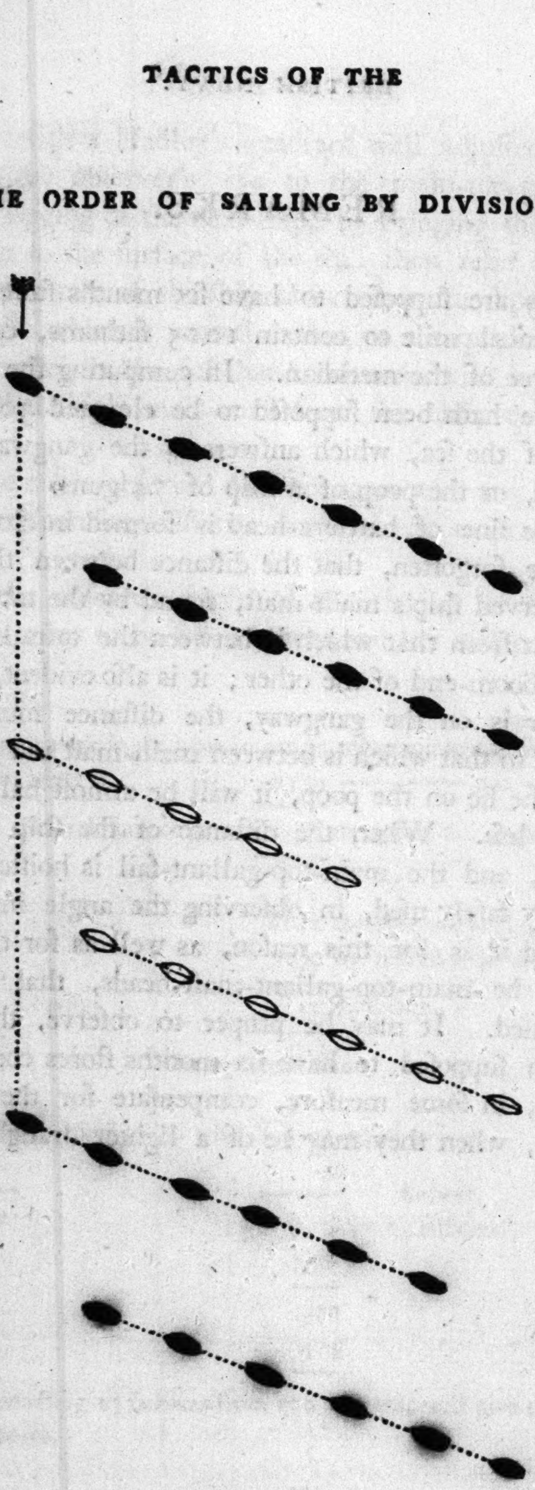

FIG. 105.

THIS order is formed by each of the three ſquadrons being divided into two diviſions; by which the whole fleet will conſiſt of ſix columns. The admiral, or commander in chief, generally places himſelf a-head of the weather or ſtarboard ſquadron. When ſailing by the wind, the leading ſhips of each ſquadron keep in a line with the direction of the wind; the leaders of the weather diviſion of each ſquadron being advanced a-head of ſuch diviſions. When ſailing large, the leading ſhips keep a-breaſt of each other. The diſtance between the diviſions of each ſquadron is directed to be about half a mile; and the diſtance between the ſquadrons about one mile. The diſtance from ſhip to ſhip nearly three cables in fair weather.

But it muſt be evident, that theſe diſtances between the diviſions and the ſquadrons, are liable to the ſame obſervation as the editor has juſt made upon the ORDER OF SAILING IN THREE SQUADRONS.

THE ORDER OF SAILING IN TWO COLUMNS, OR GRAND DIVISIONS.

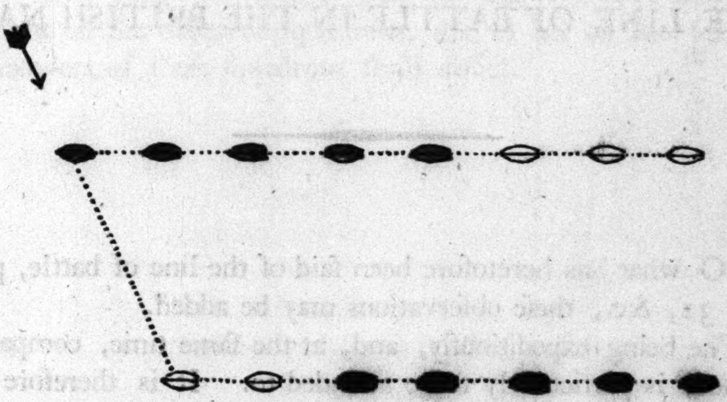

FIG. 106.

In this order, the whole fleet is divided into two columns: the weather, or ſtarboard, containing the whole of the van, and a part of the center ſquadrons; the lee or larboard column containing the remainder of the center, and the whole of the rear ſquadrons. The diſtances between theſe columns, and from ſhip to ſhip, are the ſame as thoſe preſcribed for the ORDER OF SAILING IN THREE SQUADRONS. The bearings of the columns, either in a line with the direction of the wind, or a-breaſt of each other, depends, as in the other orders of ſailing, upon whether the fleet is ſailing large or by the wind.

STATIONS OF THE FRIGATES, FIRE-SHIPS, &c. IN THE ORDERS OF SAILING.

The frigates, fire-ſhips, and other ſmall veſſels, attached to the fleet, keep to windward of the line-of-battle ſhips, when ſailing by the wind. When ſailing large, they take ſtations out of the body of the fleet, as may be moſt convenient.

THE LINE OF BATTLE IN THE BRITISH NAVY.

TO what has heretofore been ſaid of the line of battle, pages 15, 31, &c., theſe obſervations may be added.

The being expeditiouſly, and, at the ſame time, compactly, formed, is particularly to be attended to. It is therefore neceſſary, that each ſhip ſhould get into her allotted ſtation in the moſt ſpeedy manner; but ſuch ſhips as cannot, from their inequality of ſailing, either gain or keep their ſtations, are not to hazard diſorder by too perſevering an endeavour; for this purpoſe, they are to fall a-ſtern, and form in ſucceſſion in the rear of the line, while the ſame ſpaces left by them are to be inſtantly occupied by the ſhips next in ſucceſſion, ſo as to keep the line perfect and whole. The fleet ſhould, likewiſe, at firſt, keep in cloſe order, ſteering the ſame courſe as before, unleſs another courſe is directed; and under ſuch degree of ſail, as will enable it to keep pace with the admiral. The line of battle is, unleſs particularly directed otherwiſe, always formed upon the center ſquadron, from order of ſailing in three ſquadrons.

The three ſquadrons, of which it is uſually compoſed, are generally arranged thus: the commander in the ſecond poſt leads with his ſquadron; the ſquadron of the commander in the third poſt forms the rear; the admiral's ſquadron is in the center: but this arrangement is ſubject to ſuch alteration as the admiral, upon circumſtances, may direct by ſignal.

It is, likewiſe, to be underſtood, that when (by change of wind, or in conſequence of any evolution) the rear ſquadron either becomes the van, or is leading on the tack not previouſly directed for it to lead on, ſuch ſquadron is ſo to continue, until a farther change takes place. Should the admiral withdraw his own ſhip from the line, this is not to alter the bearing or courſe of the fleet, which is to be continued, till altered by ſignal.

The commanders of ſquadrons may change the ſituation in the line, between any of the ſhips of their reſpective ſquadrons, as they may judge neceſſary; and the frigates, &c., that are attendant on the different ſquadrons, are to act as the ſeveral commanders of thoſe ſquadrons ſhall direct.

BRITISH TACTICS.

GENERAL RULES FOR MANOEUVRING.

In order to facilitate the execution of all manœuvres, there are ſome GENERAL RULES laid down:

1. SHIPS CROSSING NEAR EACH OTHER. When ſhips muſt croſs near each other on different tacks, the ſhip on the ſtarboard tack is to keep to windward, and that on the larboard tack is to keep to leeward.

2. WHEN NOT TO REGARD THE SENIORITY AND RANK OF COMMANDERS. Ships of war are to bear up, ſhorten ſail, &c., for each other, in ſuch manner as may be moſt convenient, and may beſt prevent the falling on-board of each other, without any regard to punctilio from ſeniority or other rank of the commanders.

3. ACCOMMODATING SHIPS UNDER PARTICULAR ORDERS. When any ſhips are going to execute particular orders, (ſuch as going to chaſe, making ſail to their ſtations, &c.) every ſhip is to accommodate as much as poſſible, without leaving their own ſtations, either by bearing up or keeping their wind, ſo as to enable thoſe ſhips to perform the duty required.

4. THE LINE OF BEARING. The fleet will generally ſteer not nearer than *one* point from the wind. This judicious regulation is to enable leewardly ſhips to keep in their allotted ſtations. Hence it follows, that the line of bearing for either tack will *not* be ſtrictly the cloſe-hauled line; (as mentioned in page 5;) but *one* point from it, or *ſeven* points from the direction of the wind, inſtead of ſix. This line of bearing is always to

be preſerved, (as in the inſtances of tacking or veering together) whatever changes may be made in the courſe by the fleet *together*. But, if the courſe be altered *in ſucceſſion*, then the former line of bearing becomes changed, as in the inſtances of veering or tacking *in ſucceſſion*. Thus, therefore, the *laſt* line of bearing is to be kept, when courſe is altered *together*.

5. SHIPS OUT OF THEIR STATION. Ships in order of ſailing are to be kept in the *wake* of the *leading-ſhips* of their reſpective columns, without regard to their ſeconds a-head: and therefore ſhips that are to leeward of their reſpective leaders, as well as thoſe that are too far a-ſtern, are deemed out of their ſtation. It is neceſſary to obſerve, that whatever ſhip is *actually* at the head of the line, of a ſquadron, or diviſion, is to be conſidered in all reſpects for the time as the *leading ſhip*, when the regular leading ſhip may have been detached upon any particular ſervice. As ſhips frequently fall to leeward for want of after-ſail, and as this is the moſt inconvenient irregularity, it ſhould be particularly guarded againſt; which might often be done, by keeping ſuch a ſail as will preſerve proper ſteerage-way, and hauling at the ſame time cloſer to the wind, to prevent getting a-head.

6. PRECAUTIONS FOR SUCCESSIVE MOVEMENTS. When the fleet is to execute any evolution IN SUCCESSION, ſuch as tacking, veering, going large, or hauling cloſer, particular attention muſt be paid to preſerve the appointed diſtance between ſhip and ſhip, by either taking in or increaſing ſail. For, when a ſhip tacks or hauls cloſer, it is evident that ſhe will need an addition of ſail, to preſerve the requiſite diſtance from her ſecond a-ſtern: but, on the contrary, when a ſhip is to keep away from the wind, it will be proper to leſſen her ſail, in proportion as her rate of ſailing is increaſed by going large. In the firſt caſe (hauling cloſer) it may even be ſometimes neceſſary for the ſeconds a-ſtern reſpectively to bear away a little more from the wind than their firſt courſe, while their ſeconds a-head haul to the wind; by which the ſtated interval may be better preſerved, the movement of the ſeconds a-head facilitated, and the ſhips form more readily into each other's wake, when come to the wind: but the neceſſity and extent in this precaution will depend on the number of points which the new courſe differs from the former one. When the requiſite diſtance between ſhip and ſhip

is, for any length of time, materially exceeded by any ſhip, or in caſes of miſſing ſtays, or not putting into ſtays in due time, the ſhip next in ſucceſſion is to take and occupy the vacant ſpace, till the firſt may be able to reſume her proper ſtation.

7. The course. In order of ſailing, the courſe (if not otherwiſe directed) is taken from the example of the admiral: the leading ſhips of the ſquadrons regard the admiral; and the ſhips of the ſquadrons their reſpective leaders. But, if the fleet be in order of battle, the courſe is taken from the ſhips leading the van of the fleet.

8. Position of squadrons and ships changed. When, in conſequence of any evolution, the poſition of either ſquadrons or ſhips be changed, (as the van becoming the rear, a leading ſhip becoming the ſternmoſt, &c.) ſuch ſquadrons and ſhips are, till further order or change, to perform all ſervices incident to their new ſtation.

9. Drawing into closer order. This is done by the ſhips cloſing nearer to the center, or ſhip of the ſenior flag officer in the line or ſquadron. If the ſhips, when the ſignal is made, are at four cables, they cloſe to three; if at three cables, to one and a half; if at one and a half, they cloſe to one; if at one, they cloſe to half a cable.

If the fleet be in line of battle, and the leading ſquadron draws a-head of the center ſquadron, thus materially opening the preſcribed diſtance between ſhip and ſhip, the laſt ſhip of ſuch leading ſquadron is to *cloſe back* to her proper diſtance from the leading ſhip of the next ſquadron: and thus the ſeconds a-head (in the van ſquadron) are reſpectively and in turn to cloſe back till the proper diſtance is regained.

This rule equally applies to the diviſions of ſquadrons, that draw a-head of their reſpective ſucceeding diviſions.

10. Forming into more open order. If the ſhips, upon ſignal made, are one cable and a half aſunder, they are to open to two cables; if at two cables, to open to three; if at three, to open to four; increaſing, each time the ſignal is made, about one cable's length.

When in time of battle, and the rear ſquadrons preſs upon either of thoſe leading them, the order is to be opened forward in ſucceſſion by the ſhips of the ſquadron a-head.

PARTICULAR MANŒUVRES IN THE ORDERS OF SAILING AND IN LINE OF BATTLE.

TO TACK IN SUCCESSION, WHEN SAILING BY THE WIND IN ORDER OF SAILING IN THREE SQUADRONS.

This is performed as ſhewn in page 22, fig. 22: but it muſt here be remarked, that, as the admiral is generally placed a-head of the weather ſquadron, this evolution is not to be commenced, till the leading ſhip of the weather ſquadron is advanced into the wake of the admiral, after he is about. The ſhips of the different ſquadrons ſhould likewiſe put in ſtays exactly in (but before they have paſſed) the wake of their reſpective leading ſhips.

TO TACK IN SUCCESSION, WHEN SAILING BY THE WIND, IN ORDER OF SAILING BY DIVISIONS.

The commanders of the different ſquadrons put in ſtays together; and, when the leading ſhip of the weather diviſion of each ſquadron is arrived in the wake of her commander, (then about on the other tack) the leading ſhips of the diviſions put in ſtays together, and are followed by the ſhips of their reſpective diviſions. The leading ſhip of the lee diviſion of each ſquadron is, when tacked, to paſs a-ſtern of the laſt ſhip of her immediate weather diviſions, continuing on the former tack.

TO HAUL TO THE WIND IN SUCCESSION, FROM SAILING LARGE.

The leading ſhip hauls firſt to the wind, and the others as they arrive in the wake of the leading ſhip.

TO ALTER COURSE IN SUCCESSION.

The leading ſhip of the line, ſquadrons, or diviſions, firſt alters to the courſe directed; the other ſhips take their ſtations a-ſtern of her in ſucceſſion, as they arrive at that point of her wake where ſhe began the evolution.

TO VEER TOGETHER WHEN IN ORDER OF SAILING BY DIVISIONS.

This is performed by the leaders of diviſions, preceded by the commanders of ſquadrons, veering together, followed by the ſhips of their reſpective diviſions. Thus, after the commanders of ſquadrons have veered, there will be ſix ſhips veering at the ſame time.

TO ALTER COURSE TOGETHER, PRESERVING THE LINE OF BEARING.

Such ſhip as will be the outer or leading ſhip on the new courſe is firſt to begin the movement. See page 21, "TO TACK THE COLUMNS TOGETHER," page 33, "THE LINE TO TACK AND RE-TACK TOGETHER;" and page 34, "THE LINE TO BEAR AWAY TOGETHER."

TO CHANGE FROM ORDER OF SAILING IN THREE SQUADRONS, TO THE LINE OF BATTLE, FORMING ON THE CENTER SQUADRON, THE WEATHER SQUADRON BEING THE VAN, AND THE LEE SQUADRON THE REAR.

THIS evolution is the ſame as that ſhewn in page 45, fig. 49: which figure will illuſtrate the following directions for the Britiſh Navy.

The center ſquadron ſtands on under an eaſy ſail. The weather ſquadron bears away *together* *, till it arrives a-head of the center ſquadron, when it hauls to the wind *together*. The lee ſquadron, at the ſame time, tacks *together;* and, when arrived in the wake of the center ſquadron, it retacks *together*, and thus completes the line of battle.

Upon a compariſon of theſe two methods it will be found that this evolution may be performed by the center ſquadron bringing to, while the other ſquadrons manœuvre to gain their reſpective ſtations, as above deſcribed.

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* It has been before obſerved, that in all alterations of the courſe *together*, the line of bearing is preſerved. It will therefore be kept in mind (as indeed is evident from inſpection of the figures) that, when the fleet, or any part of it, tacks, veers, hauls the wind, or bears away, *together*, both the *relative bearing*, and diſtance from ſhip to ſhip, muſt neceſſarily be preſerved.

TO CHANGE ORDER OF SAILING IN THREE SQUADRONS TO LINE OF BATTLE, FORMING ON THE CENTRE SQUADRON; THE VAN BECOMING THE REAR, AND THE REAR THE VAN.

THIS evolution is the ſame as that in page 49, fig. 54. But it is thus performed in the Britiſh Navy.

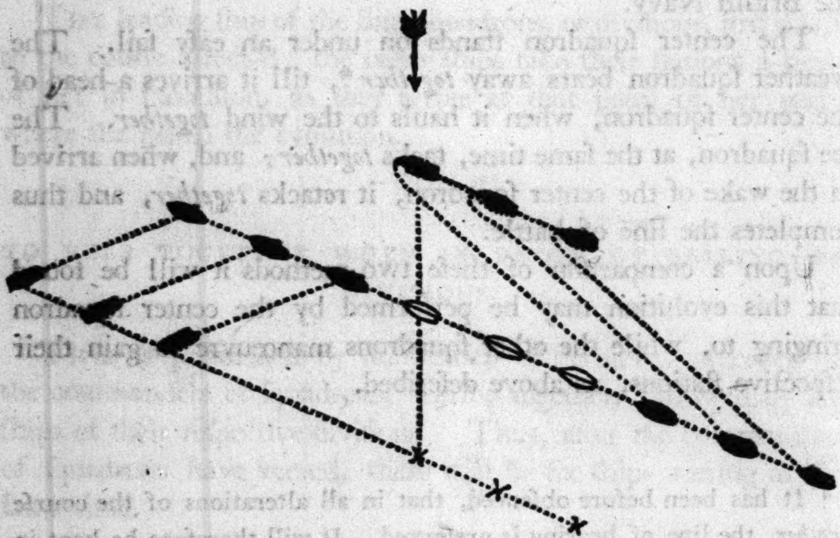


FIG. 107.

The weather ſquadron bears away *together*, to gain the wake of the center ſquadron, where it hauls to the wind *together*. The center ſquadron from the beginning ſtands under an eaſy ſail; while the lee ſquadron ſtands on with a preſs of ſail, till its ſternmoſt and leewardmoſt ſhip can, by tacking, fetch into her ſtation, a-head of the weathermoſt ſhip of the center; when the lee ſquadron tacks *together*, and ſo ſtands on till it arrives a-head of the center ſquadron; where it re-tacks *together*, and forms the line.

Each of theſe methods has its peculiar advantage: the firſt is performed in the ſhorteſt time; but the laſt keeps the fleet moſt to windward.

TO CHANGE FROM ORDER OF SAILING IN THREE SQUADRONS TO LINE OF BATTLE, FORMING ON THE CENTER SQUADRON; THE VAN BECOMING THE CENTER, AND THE CENTER THE VAN.

THIS evolution is the ſame as that in page 47, fig. 51; from which the following directions, as obſerved by our navy, will be found to differ rather in terms than eſſentials: the ſame figure will illuſtrate both.

The weather ſquadron bears up *together;* and, when arrived in the wake of the center ſquadron, it hauls its wind *together.* The center ſquadron in the mean time ſtands on under a preſs of ſail, taking its ſtation a-head of the new center; while the lee ſquadron tacks *together*, and, when arrived in the wake of the new center, it re-tacks *together*, and forms the line.

TO CHANGE FROM ORDER OF SAILING IN THREE SQUADRONS TO LINE OF BATTLE, FORMING ON THE WEATHER SQUADRON; THE WEATHER SQUADRON BEING THE VAN, AND THE LEE SQUADRON THE REAR.

THIS evolution is the ſame as that in page 44, fig. 47: which figure will well ſerve to illuſtrate the following directions for the Britiſh Navy.

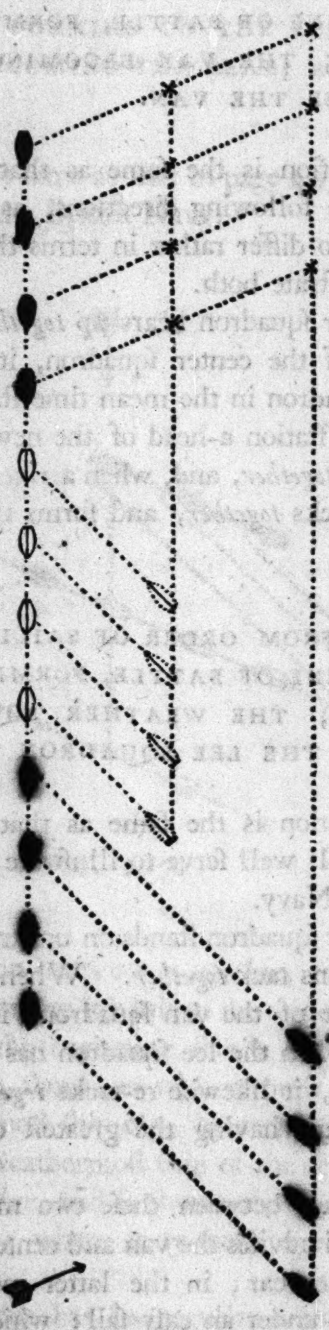
The weather ſquadron ſtands on under an eaſy ſail: the center and lee ſquadrons tack *together*. When the center ſquadron has gained the wake of the van ſquadron, it re-tacks *together*, and ſtands on. When the lee ſquadron has gained the wake of the center ſquadron, it likewiſe re-tacks *together*, and completes the line. The rear, having the greateſt diſtance to run, ſhould preſs ſail.

The difference between theſe two methods conſiſts in this: the firſt method adviſes the van and center ſquadrons to bring-to, and wait for the rear; in the latter mode, the van and centre ſquadrons keep under an eaſy ſail: which laſt method certainly has the advantage of keeping the fleet moſt to windward, although it may not be formed quite ſo expeditiouſly.

TO CHANGE FROM ORDER OF SAILING IN THREE SQUADRONS TO LINE OF BATTLE, FORMING ON THE CENTER SQUADRON; THE REAR BECOMING THE CENTER, AND THE CENTER THE VAN.

This evolution is the ſame as ſhewn in page 51, fig. 31; from which the following directions, as obſerved in our navy, will be found to differ rather in terms than effect; the ſame figure will illuſtrate both.

The weather ſquadron bears up *together*; and, when arrived in the wake of the center ſquadron, it hauls its wind *together*. The center ſquadron in the mean time ſtands on under a preſs of ſail, taking its ſtation a-head of the new center; while the lee ſquadron tacks *together*, and, when arrived in the wake of the new center, it re-tacks *together*, and forms the line.



TO CHANGE FROM ORDER OF SAILING IN THREE SQUADRONS TO LINE OF BATTLE, FORMING ON THE WEATHER SQUADRON; THE VAN BECOMING THE REAR, AND THE REAR THE VAN.

FIG. 108.

TO CHANGE FROM ORDER OF SAILING IN THREE SQUADRONS TO LINE OF BATTLE, FORMING ON THE WEATHER SQUADRON; THE WEATHER SQUADRON BEING THE VAN, AND THE LEE SQUADRON THE REAR.

This evolution is the ſame as that in page 54, fig. 47: which figure will well ſerve to illuſtrate the following directions for the Britiſh Navy.

The weather ſquadron ſtands on under an eaſy ſail: the center and lee ſquadrons tack *together*. When the center ſquadron has gained the wake of the van ſquadron, it re-tacks *together*, and ſtands on. When the lee ſquadron has gained the wake of the center ſquadron, it likewiſe re-tacks *together*, and completes the line. The ſquadron having the greateſt diſtance to run, ſhould preſs ſail.

The difference between theſe two methods conſiſts in this: the firſt method directs the van and center ſquadrons to bring-to, and wait for the rear; in the latter mode, the van and centre ſquadrons keep under an eaſy ſail: which laſt method certainly has the advantage of keeping the fleet more to windward, although it may not be formed quite ſo expeditiouſly.

The weather ſquadron ſtands on under an eaſy ſail, or elſe brings to. The center and lee ſquadrons ſtand on under a preſs of ſail; and, when the ſternmoſt ſhip of the centre ſquadron is able, by tacking, to fetch a-head of the weather ſquadron, the center ſquadron tacks *together*, and ſo ſtands on till it brings the new rear ſquadron on the line of bearing, when it re-tacks *together*. The lee ſquadron obſerves the ſame movements with regard to the center.

TO CHANGE FROM ORDER OF SAILING IN THREE SQUADRONS TO LINE OF BATTLE, FORMING ON THE WEATHER SQUADRON; THE VAN BECOMING THE CENTER, AND THE CENTER THE VAN.

The weather ſquadron ſtands on under a very eaſy ſail. The centre ſquadron ſtands on under a preſs of ſail, till its ſternmoſt ſhip can, by tacking, fetch a-head of the headmoſt ſhip of the weather ſquadron; when it tacks *together*, and ſo ſtands on, to bring the new center on the line of bearing, at which time it re-tacks *together* a-head of the new center. The lee ſquadron, at the beginning tacks *together;* and, when arrived in the wake of the former weather ſquadron, it re-tacks *together*, and completes the line.

TO CHANGE FROM ORDER OF SAILING IN THREE SQUADRONS TO LINE OF BATTLE, FORMING ON THE LEE SQUADRON; THE WEATHER SQUADRON BEING THE VAN, AND THE LEE SQUADRON THE REAR.

This is the ſame evolution as that in page 44, fig. 48: in which the rear ſquadron is directed either to bring-to *or* to keep ſteerage-way. In this particular only it differs from the practice of the Britiſh Navy, which is for the rear to keep on under an eaſy ſail.

TO CHANGE FROM ORDER OF SAILING IN THREE SQUADRONS TO THE LINE OF BATTLE, FORMING ON THE LEE SQUADRON; THE VAN BECOMING THE REAR, AND THE REAR THE VAN.

THIS is the ſame evolution as that in page 49, fig. 54. But, in the Britiſh Navy, the weather column is ordered to bear away about *ſix* points: and this is the only difference between the two methods.

TO CHANGE FROM ORDER OF SAILING IN THREE SQUADRONS TO LINE OF BATTLE, FORMING ON THE LEE SQUADRON; THE VAN BECOMING THE CENTER, AND THE CENTER THE VAN.

THIS is the ſame evolution as that in page 47, fig. 52. The directions are exactly the ſame, except that the lee ſquadron, in the practice of our navy, is ordered to ſtand on under an eaſy ſail, inſtead of bringing to.

TO CHANGE FROM ORDER OF SAILING BY DIVISIONS, TO ORDER OF SAILING IN THREE SQUADRONS.

THE ſtarboard or weather diviſion of each ſquadron falls in a-head of its reſpective lee or larboard diviſion.

Or it may be thus performed: the lee or larboard diviſion of each ſquadron tacks together, and re-tacks a-ſtern of its reſpective weather or ſtarboard diviſion.

In either way, the ſhips of each diviſion muſt ſo proportion their ſail, as to facilitate the execution of theſe intentions: and, when the three ſquadrons are thus formed, they muſt regulate their diſtances.

TO CHANGE FROM ORDER OF SAILING BY DIVISIONS TO LINE OF BATTLE.

THIS is performed by firſt paſſing to the order of ſailing in three ſquadrons; and thence to the line of battle.

THE END.